ON THE OPERATION

FOR

STRANGULATED HERNIA.

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TO

GEORGE JAMES GUTHRIE, ESQ., F.R.S.

LATE PRESIDENT OF THE ROYAL COLLEGE OF SURGEONS OF ENGLAND,

IN ADMIRATION OF HIS

BRILLIANT ATTAINMENTS AS A SURGEON,

AND IN GRATITUDE FOR UNREMITTING KINDNESS;

THIS WORK IS DEDICATED,

BY HIS ATTACHED FRIEND AND PUPIL,

HENRY HANCOCK.

Harley Street, Cavendish Square,
22nd November, 1849.

OBSERVATIONS

ON THE OPERATION FOR

STRANGULATED HERNIA.

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subject of strangulated hernia having lately been
ght prominently before the profession, by the publi-
n of Mr. Gay's work upon Femoral Hernia, I am
ced to submit the following remarks, not as presenting
lty, but rather with the view of eliciting opinion as
ne best mode of operation, as well as the general
ment to be adopted in cases of strangulated hernia.
ie recommendation of not opening the sac has at
us times been ably advocated by Petit, Le Dran,
ro, Sir C. Bell, Bransby Cooper, Aston Key, Luke,
Gay, in whose hands it has been successful, parti-
ly in those of Mr. Luke; whilst the statistics advanced
ie latter gentleman certainly appear, at first sight,
tly to favour this mode of proceeding.

On the other hand, it has been as ably opposed by of equal, if not greater eminence—Dupuytren, Rich Hey, Heister, Sir A. Cooper—excepting in old and l incarcerated herniæ—Lawrence, and more recently South; whilst a closer inquiry into the statistics and a ments adduced in its favour, tends greatly to diminish claims to superiority, and proves that the mortality, operations for strangulated hernia, depends, in most stances, upon causes entirely independent of the operat that opening the sac does not, in reality, increase danger; but that, on the contrary, the advantages of method are so great, that, as a general rule, it ough be adopted as the safer mode, and presenting the gr certainty of success.

It has been urged by the advocates of Petit's ration, that, by its adoption, we avoid the follo dangers, viz:—

"Peritonæal inflammation, consequent upon the e sure of an inflamed or strangulated portion of the b which, according to Key, is the cause of death i majority of cases."

"Hæmorrhage into the cavity of the abdomen, s a vessel be wounded."

"Risk of wounding the intestine."

"Rupturing the bowel, by drawing it down from the stricture, as sometimes arises from an ulce process induced in the bowel by the pressure of the of the constricting band, which accident cannot a the division of the stricture on the outside of the sac.

"Opening the sac, and, thereby, laying bare the tonæal cavity of the abdomen."

"Immediate manipulation of parts so important t

l, according to Gay, inducing unhealthy processes in external wound."

'Exposure of a portion of bowel, possessing feeble vers of resistance to the morbid influence of air, it, &c., giving rise to fatal inflammation and organic nges, not present at the time of operation."

'Extreme prostration, speedily followed by death, in es where great depression of the powers is observed to cede the operation, without any other obvious cause n the exposure of the bowel."

'Danger of disorganisation, from exposure of the con- s of herniæ, bruised by the taxis."

'Small collections of pus, at the mouth of the sac, after operation for opening the sac."

propose, first, to examine the validity of these objec- s to the usual operation; then, to inquire into the istics adduced; and, lastly, to hazard a few observa- s as to the general treatment of these cases, upon ch, I believe, their success mainly depends.

n the first place, then, are these objections valid or able? Have not the authors in question, in their iety to support their own peculiar views, overlooked real causes of failure, and grasped at the shadow lst they neglected the substance? Have they not, by llessly exaggerating the danger of the usual method, erroneously attributing to the operation the failures ch, in reality, resulted from causes entirely inde- lent of such operation, created unnecessary alarm and ety as to its probable termination; and thus tended perpetuate that system of delay, which we have all much reason to deplore, as leading to "unsuccessful ts," pressure, and bruising the intestine, and post-

poning the operation until it is merely regarded as
forlorn hope?

We can scarcely read the published records of stran
gulated hernia without feeling surprise, not that th
mortality has been so great, but that it has not bee
greater. Every rule, I may almost say, of common sens
if not of good practice, appears to have been violated i
the treatment of these cases. When strangulation too
place, instead of at once relieving the stricture, the patie
was left until almost dead, the surgeon in the meantim
torturing him in all manner of ways, in order to prever
the operation, which was at last obliged to be performe
under every disadvantage, the gut being bruised, inflame
or mortified, and the patient in a state of collapse, wo
out by suffering, and the prolonged and abortive attemp
at reduction. When the intestines, from the injury su
tained, had lost their power of action, they were st
more irritated and injured by the exhibition of purgati
medicines, both before and after the operation; and y
those who pursued this practice would most strenuous
have deprecated the employment of purgatives in cases
idiopathic enteritis, or wounds of the abdomen. Agai
notwithstanding the patient was almost collapsed, fr
the severe constriction exerted upon the intestines,
vital powers were still more depressed by the administ
tion of tobacco, either in solution or fume, tartar emet
and other equally destructive agents. These have
been lost sight of; even mortification and rupture of t
intestines, and disease of vital organs, have been ov
looked; and deaths occurring under such circumstan
have been ascribed, not to their true causes, but to
opening the sac, and classified accordingly.

We have seen, according to Key, that in the us

ration, the majority of fatal cases are consequent upon exposure of the inflamed or strangulated portion of bowel, caused by opening the sac; but this opinion y no means conclusive, notwithstanding it is supported the experiments of Monro. Comparatively few patients of simple peritonitis after this operation. Out of -two fatal cases instanced by Gay, the symptoms of tonitis alone existed only in eight, and in these the ptoms were so slight as to lead to the supposition the patients died from the shock to their systems, er than from the peritonitis. It is an interesting fact, the amount of mortality is not in the same ratio as extent of peritonæum and intestine exposed. Cases rded prove the smaller herniæ to be those which ent the most urgent symptoms; and Sir A. Cooper related that, in the largest hernia he ever saw, having ned the sac, a large quantity of intestine, with ntum, protruded, but, after dividing the stricture, the esions were so great, that he judged it advisable not ttempt their separation, and, from the size of the ia, it was impossible to bring the integuments over intestine, which was therefore left exposed to the air; nothing untoward ensued, the intestine soon began ranulate, and gradually shrank within the wound, and patient recovered. Boyer also gives a case which rred to Petit. Although the stricture was freely led, and there were no adhesions, yet the gut could be returned. Petit, therefore, allowed it to remain e wound, and covered it with pledgets of linen. The ter part returned spontaneously into the abdomen, the nd healed, and the cure was accomplished. It is true the observations made by Mr. Key, respecting the ger of opening the sac, and thereby laying bare the

abdominal cavity, were made nearly twenty years ag but I am surprised they should be urged so earnestly the present day, as they are by Mr. Gay, in his wo *On Femoral Hernia,* nor can I agree with th gentleman, as to the danger of cutting the peritona sac, or even the peritonæum itself. The history of stra gulated hernia proves, by everyday experience, that t peritonæum may be cut with impunity. I am willing admit that, if we cut or irritate healthy peritonæum, may induce peritonitis, although even this does n always occur; but if we cut inflamed peritonæum, t inflammation does not necessarily increase, especially wh that inflammation results from some exciting cause, a by our incision we remove that exciting cause. C incision, thus, becomes a relief to the patient, where when made in healthy peritonæum, we inflict a violen on the part. I believe, and I am supported in this be by the observations of Sir C. Bell, that we may diseased with greater impunity than healthy peritonæu The abdominal sections for ovariotomy prove this; removal of large portions of omentum proves it; operations for paracentesis abdominis prove it; and success which attended my case of cæcal disease tends prove it. Again: is the general peritonæal cavity laid b by opening the sac? It must be remembered that communication between the sac and abdomen is comple closed by the protruding gut or omentum, and that, e when the intestine is returned, it usually lies so close the ring, that very little, if any, air can penetrate abdominal cavity, even if it should be injurious, of whic have great doubt, having had patients, who from wou have had the abdominal cavity exposed for a much lon time than would be required for the operation for str

ted hernia, and who have recovered without any urgent toms. Moreover, Key's own observations negative position, inasmuch as he says, "In tracing the mmation consequent upon the operation for hernia, it und to spread from that portion of the bowel that has strangulated, over the peritonæal surface of the intes-, and not to have its origin from the incision in the although two wounds are usually inflicted upon it. peritonæum, about the seat of stricture, exhibits fewer s of acute inflammation than the investment of the els"—a conclusive proof that the danger and inflam-on result from the violence inflicted on the gut itself, he strangulation, and that opening the sac, and thereby g bare the abdominal cavity, have literally nothing to vith the fatal termination; for Key admits that the mmation does not emanate from the peritonæal sac, ugh two openings are made in it; also, that the onæum at the seat of stricture, exhibits fewer signs of mmation than the investment of the bowels, although portion of peritonæum next to the sac would be most sed to the influence of light and air; and, besides, if g bare the abdominal cavity exerted any influence, it ght to assume that the peritonitis would be generally sed over the whole peritonæal surface, and not confined ie constricted intestine.

[r. Lawrence and Mr. South differ from Monro and as to the influence of air, light, and handling, in ucing fatal inflammation, and organic changes not ent at the time of operation, and assign such patho-al changes to the pressure of the stricture which ts the parts, not, like the slight violence of the ation, for a few minutes only, but uninterruptedly for s.

Cases certainly occur "in which the patient appears to
doing well after the operation, but after the lapse of two
three days, the powers begin to sink; the abdomen, thou
not very tense, is uneasy under pressure, the pulse small
quick, the tongue becomes coated; this condition
perhaps protracted for several days, and the patient
length dies. A post-mortem inspection discovers
cause of death in the dark colour and lacerable condi
of the strangulated portion of bowel, and the vascular s
of the surrounding parts;" and we are told, that "
unexpected termination usually takes place, in patient
enfeebled constitution, whose powers are unequal to
restoration of the healthy circulation in the strangul
bowel after its release from the stricture, and in wh
therfore, a slight degree of inflammation, gradually end
the extinction of its vitality; at the period of operat
the intestine, when exposed, presents none of the u
indications of present or approaching gangrene; no i
tration of its tissues; no discoloration beyond that w
retarded circulation in a healthy bowel produces; no
of peritonæal lustre, and no lacerability of texture. It i
point appears to differ from those cases of strangulatio
which an early operation is had recourse to, before se
symptoms come on, and in which a favourable progr
is verified by a rapid convalescence. Exposure
portion of bowel possessing such feeble powers of resist
to morbid influence cannot but tend to increase, prob
to excite, a disposition to inflammation, which, though
in degree, is sufficient to destroy its vitality, and it
therefore be fairly regarded as the main agent in
production of gangrene."*

I quite agree as to the occurrence of such cases,

* Key on Strangulated Hernia.

tainly not with the deductions advanced. If the ngrene of the gut were really due to the cause assigned, uld not such cause and effect more quickly and unin- ruptedly succeed each other?—would the patient appear be doing well after the operation?—would the evacua- ns be free and natural, and the pain and sickness cease, the first two or three days? In some instances, where patient has been almost collapsed, when the gut has en so much injured, as to render it doubtful whether it y longer preserved its vitality, as in Sir A. Cooper's case, h almost lifeless intestine has been left exposed in the und, the stricture being divided, and the exposure, so from destroying the patient, has been followed by nplete success, the gut recovering its nearly suspended ality, and the patient ultimately doing well. The fatal minations may, I believe, be more correctly ascribed to purgative medicines administered, both before and er the operation; the gut has already been subjected to lence, from the constriction, almost too great for its wer of restoration, and in consequence of the continued tation kept up by the purgative medicines, the feeble orts at recovery are overcome, and mortification is the ult. That purgative medicines are productive of these l consequences, and that such terminations occur equally ere the sac has not been opened, is fully demonstrated the following cases.

In the sixth case, related by Mr. Key, in which the ts had been reduced by the taxis, and also in the venth, where the rupture had been reduced before the eration, the patients died from peritonitis.

Case 1.*—Winifred J——, aged eighty-five, had stran-

* Poland's Cases.

gulated femoral hernia of two days' duration. Previo to operation, she had senna injections, and was dosed wi Epsom salts and magnesia. After the second dose, s vomited, and then became so low as to require brand She was operated upon on the 23rd December, 1841, t the stricture being divided external to the sac, which w not opened. The next day, after a good night, she pass two liquid motions, succeeded by increase of pulse, a dryness of tongue.

Dec. 25th.—Bowels again opened; considerable febr action; full quick pulse; dry tongue and skin; gre thirst. To omit brandy, and have beef-tea and arrow-ro In the evening, appeared very low and weak.

26th.—Quite comfortable; four evacuations during t day.

27th.—Very weak and low.

28th.—To-day, very weak and irritable; the wh wound is sloughy. In the course of the evening, s became worse, with excessive restlessness and distress, a suffering from constant heaving from the stomach bilious-looking fluid, and a sense of weight and constr tion at the pit of the stomach. She died on the 29th.

Case. 2.*—Mr. Luke operated upon a female, a seventy, for strangulated femoral hernia of forty-ei hours' duration. The sac was not opened. The exter wound healed, and the patient appeared to be recove from the operation. Death, however, took place, ab six weeks afterwards, from effusion into the perito cavity, caused by stricture of the bowel, and ulcerat of the part which had been previously the subject strangulation.

* Medico-Chirurgical Transactions, vol. xxxi.

ASE 3.*—Mr. Cock related a case at the South London dical Society, of a patient upon whom he had operated strangulated femoral hernia of two days' duration, the ent being at the same time pregnant. The sac was opened. She proceeded pretty well until the seventh after the operation, although she had no relief from bowels; however, she is stated to have been considered of danger, when miscarriage took place, and she died he following day, or the eighth from the operation.

ost-mortem examination.—Peritonitis, with effusion of id serum; unhealthy condition of kidneys, and a small ckle of intestine, evidently that which had been con-ted, nearly obscured by soft adhesions, which confined the intestines and on the under side of the intestine, a patch of gangrene, about the size of a shilling. The ent's bowels did not act, up to the time of her death.

ASE 4.†—Mr. Godwin operated forstrangulatedfemoral ia of a few hours' duration, without opening the sac. patient's bowels were opened three hours after the ation, but she sank and died on the third day.

ost-mortem examination.—The intestines were distended glued together by coagulable lymph, and presented eral appearance of inflammation. The abdominal etes were very vascular, especially near the crural ring, re there was considerable extravasation of blood, rior to the peritonæum, which was entire, no opening ng been made into the abdominal cavity.

ASE 5.‡—Mr. Howship operated upon a coachman for ct inguinal hernia of fifty hours' duration, at which

* *London Medical Gazette*, vol. xxxviii.

† *The Lancet*, 1830, vol. ii.

‡ Discrimination of Surgical Disease.

time, the abdomen and tumour were so exeessively tend that he could seareely bear them touched. The sac v not opened, and the vomiting and constipation continu "notwithstanding the exhibition of drastic purgativ venesection, and warm bath; the tobaeeo-fume enema n used, passed the bowels, and was now felt in the thro and still nothing would pass downward." He sank, a died on the third day.

Post-mortem examination.—Intestine inflamed, e traeted and thickened, and covered with effused fib

Camper, also mentions a case in which death oeeur from peritonæal inflammation, where an inguinal hernia been returned without any delay.*

Again, it is urged,† "In eases in whieh great depress of powers are observed to precede the operation, death so times rapidly takes place without any other obvious ea than the exposure of the bowel. The eondition of the pat is often found to be manifestly worse after the operation, stimulants arc obliged to be plentifully administered, in o to sustain the sinking powers of life. This may hap without inflammation of the abdominal eavity or gangr of the bowel; and is attributable solely to the depres effeet of thc operation. The pulse, whieh before operation was feeblc, beeomes fluttering and sear pereeptible; the countenance, which was anxious, bespeaks thc approach of death. The skin is eovered a clammy moisture, and the whole framc is seized wit restlessncss that gradually cnds in the calmness of diss tion." Such eases do oecur, but that they depend u causes entirely independent of thosc herc assigned, ma eertainly be proved; thcy are equally to be met wit operations where no peritonæal sac or serous membr

* Camperi Iconcs Hern. † Key, op. cit.

l by any possibility be wounded, where no bowel could xposed. And they are also to be met with in operations strangulated hernia, where the stricture has been led external to the sac, which has been left entire. frequently does it fall to the lot of surgeons to meet such results, after even comparatively trivial opera-, and we may readily imagine such train of symptoms eeding any operation performed upon a patient, whose rs of life are already almost destroyed by the shock ienced from the prolonged constriction of an organ, ital and necessary to life as the intestine. If such of symptoms were confined to operations performed e usual manner for strangulated hernia, we might be sed to allow the validity of the argument; but we find everse to be the case—that patients die precisely under ir circumstances from other operations, as a reference Ir. Travers's work on Constitutional Irritation will . And, moreover, we meet with instances in which atient becomes so inured to the mischief going on, though that mischief must sooner or later destroy or where the nervous system is so completely pros-l by disease, or injury, that the sudden removal of cause of mischief will produce, I would rather say sion than reaction, too great for the wasted vital ies of the patient, and our interference thus becomes iary to death. I was called a short time since to see ly suffering from gangrene of the leg, the result of masia dolens coming on after childbirth. She was st moribund when I saw her in the morning. When ted her again in the evening, in addition to the usual y attendant, I found a physician called in by another h of the family. The patient was then decidedly r than when I saw her in the morning. Her skin was

warmer, pulse fuller and calmer; tongue, though br
and dry in the centre, was moistening at the edges.
had not, however, passed any urine for several hours,
as some hours would elapse before our next visit, it
thought advisable to use the catheter. About a pint
dark-coloured urine was drawn off; the patient sank,
died in about half an hour. Here there was no periton
sac opened; no intestine exposed, but the patient's life
cut short by the sudden revulsion succeeding the empty
of the distended bladder. In ascites, also, the same re
occasionally obtains, notwithstanding every precautio
taken: the patient is unable to sustain the shock caused
the sudden withdrawal of the long-continued source
suffering; he accordingly sinks and dies. Sir B. Br
also notices the same train of symptoms, following
sudden emptying of the over-distended bladder resul
from enlargement of the prostrate of some durati
Now what takes place in over-distended bladder, in asc
or in any case where the powers of resistance or restora
are sapped and undermined, may, equally, take plac
strangulated hernia, where the part injured is one of
most vital of the body, where the part is exposed to
injury without intermission, for several hours, nay, for d
where the peculiarity of injuries to such part is ext
prostration, a feeling of sinking and death. We ca
feel surprised, therefore, that any operation, under
circumstances, should be succeeded by collapse, eve
death; but surely it is going too far to assert that the
obvious cause for such termination is exposure of
bowel, particularly as we find it equally occurs
strangulated hernia has been treated by Petit's opera
or even when returned by the taxis alone. The age o

* Brodie on the Urinary Organs.

ient also, and the condition of the vital organs generally, y influence such terminations.

Mr. Howship gives the following case*—"J. H——, d sixty-four, an athletic man, but asthmatic, complained upture on the right side, where I found a considerable ntity of intestine down in the scrotum. He said it se from lifting a weight. In the recumbent posture I tly and easily reduced it, on which he observed that he w a man who had a similar swelling reduced, die from he next day; and, to my surprise, I was the next ning told that this man had, without complaint, died ng the night." *Post-mortem.*—Hernia again down, ding about four feet of the intestine ileum; not in the t compressed or injured.

lso the following†—"C. S——had painful swelling, size of a walnut, in the left groin, with costiveness and iting for six days; medicines failed to pass, and a tive injection proved useless. Pulse low, at 70; our, somewhat discoloured and dark, felt like irreducible stine; no peritonæal tenderness or tension, but frequent us vomiting and hiccough. Petit's operation was ormed. The coverings of the hernial sac were thin; sac, dark and congested, was not opened; the stricture g divided, the intestine was reduced with ease, without osure; the pulse, previously steady, faltered and failed ng the operation. The man vomited once on the table; system overpowered by coldness and collapse, with a e scarcely perceptible. Hot brandy-and-water revived circulation. In a warm bed he improved, but soon me restless, anxious, desirous to leave his bed, and in twenty-four hours died.

* Discrimination of Surgical Disease, p. 307.

† Idem, p. 305.

"*Post-mortem.*—Violent inflammation of peritonæu judging from its dark red colour, in which the protrud portion participated. The intestinal canal also was high vascular from the same cause, yet without the lea appearance of effusion, fibrinous or serous. The aorta w in various parts extensively ossified, and to this cau Mr. Howship assigns the want of tenderness and tensi of the abdomen, and the total absence of effusion; but may be doubted whether the appearances were not tho of vascular congestion rather than of actual inflammatio

Sir C. Bell also operated upon a man, aged eigh four, for strangulated inguinal hernia, according to Pet method. The strangulation had existed for eight hou The patient gradually sunk, and died from exhaustion the course of three days.

On the other hand, Mr. Key has related the follow case in support of his views :*

"Mrs. C——, aged forty-five, having occasionally suffe from swelling in the groin, attended with sickness and c stipation, since the year 1829, sent for Mr. Wallis, Melsham, Norfolk, on the 16th of October, 1832, for same complaint, the tumour being as large as when Wallis first saw her, in 1829. But in this attack there a greater degree of anxiety and restlessness, with a s prising prostration of strength. She was bled twice had injections administered, with the warm bath. A some hours, the taxis appeared to reduce the swelling half its size, and some part of its contents slipped into abdomen. The bowels became relieved, but in o respects the symptoms remained the same. Suspec therefore that a portion of the cylinder of the bo remained strangulated, he thought that no time should

* On Femoral Hernia, p. 54.

in having recourse to the operation, which was accor-
gly performed. A knuckle of intestine was found in
sac, dark, discoloured, but healthy, and was returned
the cavity of the abdomen. After being put to bed
became restless, throwing herself about in bed, and
pulse scarcely to be felt. In about an hour after the
ration she died."

lthough we may not feel surprised at the termination
he above case, we may fairly question the correctness
he position, that "the only obvious cause of death
the exposure of the bowels." Opening the sac, and
equent exposure of the bowel, was of very little
nent compared with the great anxiety and restlessness,
surprising prostration of strength, the two bleedings
st in this condition, the injections, warm bath, pro-
ed employment of the taxis, and the period at which
peration was performed.

s to the risk of wounding the intestine being dimi-
ed in Petit's operation: in those cases best adapted
is method, there is actually less danger of meeting
this accident by opening the sac in the ordinary
and at the proper situation, than by endeavouring
vide the stricture external to, or at the neck of the
The intestine has, doubtless, been wounded by the
on in trying to divide close and intimate adhesions;
these are cases to which it is generally admitted
's operation is not applicable. I have also seen the
ine wounded at the first cut through the integu-
s; but this was entirely carelessness on the part of
urgeon, and the same accident might occur equally
e one method as in the other, unless due caution
observed. I object to the instructions laid down
r C. Bell and others, that the sac should be opened

close to its neck; it is a proceeding attended with u
cessary risk, from the parts being so firmly compre
And, for the same reason, Mr. Luke's plan of scarif
the thickened neck of the peritonæal sac at diff
places, without penetrating its entire thickness, is
tremely hazardous, a needless running into danger;
although it may have proved harmless in the hanc
Mr. Luke, who is a very delicate and successful oper
it will, I am convinced, lead to bad results should
universally adopted. Pelletan, in the third volume c
Clinique Chirurgicale, gives a striking illustration o
dangers attending this proceeding. He says, "The
ration being considered necessary, it was deemed advi
to incise the external ring without opening the sac.
skin was divided on the outer side of the tumour,
to the ring, and the cellular tissue cut through; b
making this dissection the intestine was wounded,
the stercoraceous contents flowed out in abundance.
patient had artificial anus, which could not be cured
always open the sac at its lower portion (of cou
allude to the ordinary forms of hernia); in this sit
there is less danger of meeting with adherent intesti
fluid be present, it will be met with here separating t
from its more solid contents; if there be no fluid, t
may then without much difficulty be separated fro
intestine, if a small fold be pinched up, and gently r
together between the finger and thumb. The inc
cut thus made in the peritonæal sac does not at all di
the chances of the patient's recovery. Neither
exposure of the intestine for the short time necessa
its reduction attended with half the danger incur
cutting through the consolidated and adherent tiss
the neck of the sac. Mr. Gay has lately introdu

dification of Petit's operation for femoral hernia, con-
ing in "making the incision on the inner side, and at a
le distance from, instead of directly over, the hernial
nour, then introducing the forefinger into the wound,
l carrying it upwards and outwards to the neck of the
, afterwards carrying the blunt point of the bistouri
hé, guided by the tip of the finger, through the cribri-
n fascia, up the canal, to the ring, where it meets with
istance from the seat of the stricture; this resistance is
e overcome by the least amount of force, and with the
of a little gentle compression of the inner side of the
nour by the finger, and the point of the bistouri may
a be insinuated between the sac and the pubic margin
he ring." I do not think this operation presents any
eriority over those of Petit and Luke, neither do I
k it carries out the principle contended for by Mr. Gay,
not making the incisions deeper, or wounding more
ctures in the course of an operation than are absolutely
uired, or of leaving the hernial sac uninterfered with.
neck of the sac must be reached whether the stricture
got at directly in front or on the inner side, the only
erence being, that in the one we can attain that end
ctly, in the other, in a roundabout manner, and in the
k—a very objectionable mode, as the surgeon should
ays, if possible, see what he is about; neither can it be
all admitted that there is more danger of wounding
intestine in opening the sac in the ordinary operation
n in forcing the blunt-pointed bistouri caché (although
n the least amount of force) between the strangulated
oral hernia and the pubic margin of the ring, at the
y point of all others where ulceration of the gut takes
e from the pressure exercised by the sharp edge of
bernat's ligament, as has been noticed by Chevalier,

Breschet, and, indeed, by all surgeons of any experie
I admit that, as yet, accidents attending this part of
operation have not been recorded; on the contrary, i
stated to be particularly successful, and, indeed, so ea
performed, that were it not for the known judgment of
operators, we might almost feel inclined to doubt whe
constriction actually existed in many instances wher
has been adopted. It is true, also, that the intes
rising over the edge of the knife has been wounded in
usual operation at the time of dividing the stricture,
this has occurred from a director having been emplo
instead of the finger; if the latter be used, it is sufficie
wide to keep down the gut, and even should it rise up,
surgeon will feel its position, and be able to avoi
accordingly.

Again, as to rupturing the bowel by drawing it d
from under the stricture, as sometimes arises from ul
tion induced by the pressure of the edge of the constric
band, and which accident, it is stated, cannot pos
attend the division of the stricture on the outside o
sac. It is extremely doubtful whether this accident
occur if the stricture be properly divided before tracti
made upon the gut, unless, indeed, a degree of unneces
violence be employed, which under any circumstances
surgeon would be unjustified in using, or that ulcer
had proceeded to such an extent that the patient'
would be placed in less jepoardy from the bursting e
nally even at the time of the operation than by
returned into the cavity of the abdomen, and allow
burst internally, as has, unfortunately, too often beer
with. Comparatively few cases are recorded of the fo
accident, and of these some have recovered with the
mation of an artificial anus, whilst others, again,

re fortunate, have even been ultimately relieved of that ressing malady. The latter accident, however, is, unfortately, more frequent, and when it does occur, invariably ves fatal. For this reason, the gut should be drawn vn, and the constricted portion thoroughly examined; this must always be done with the greatest gentleness, never attempted until the stricture has been freed; I cannot help believing, that if the gut were in h a condition that it would rupture or give way under degree of force required for bringing it into view, it ld be equally liable to burst or give way at the point of ration, under the degree of force necessary for pushing ack into the abdomen, without the sac being opened, in the one case the fæculent contents would not enter abdominal cavity, and the patient would not lose all nce of recovery; in the other they would, and the ent would, inevitably, die. A writer in the *Edinburgh lical Journal*, under the assumed name of "Enquirer," made some exaggerated objections to the usual opera-, which, to a certain extent, bear upon this part of the ject. He says—"After the viscera, thus unhallowedly osed to the pernicious stimulus of a medium unusual to n—viz., atmospheric air—have been felt, fingered, ed over, and examined, *secundem artem*, the next step o divide the stricture, which one might suppose to be first object in view." Notwithstanding the above ement is upon very high authority given as true, though ly-coloured, I very much doubt its veracity. I have the usual operation for strangulated hernia performed various surgeons, but I never saw the gut handled or nined until the stricture had been divided. If this tice did obtain, it would account for the gut being ured at the point of ulceration by being drawn upon;

and even supposing that this was the practice, that surgeon did "feel, finger, turn over, and examine the *secundem artem*," before he divided the stricture, it wo merely amount to an error in the manner of perform the usual operation, and ought not certainly to be constr into an argument against the principle of the opera itself, and be employed as a means of supersedin by another so uncertain in its results, and which has appointed the expectations even of the most experien surgeons.

With respect to the danger of disorganization, f exposure of the contents of herniæ bruised by the t If it were necessary that the hernial contents should so maltreated, this might be a valid objection ag opening the sac, but the contrary is the fact. It is generally admitted that the taxis should neither be ployed for any length of time, nor with any degree of f and the surgeon who does either the one or the oth certainly guilty of bad practice. With the discontinu of the injurious proceeding will vanish this objectio the usual operation.

Now as to the situation of the external incision, an liability of dividing diseased structure, tumour, parasitic growths, &c., so strenuously urged by Mr. who says "the operation may prove fatal by indu unhealthy processes in the external wound." For reasons already given, I prefer the direct incision, as decidedly, preferable to ascertain the condition of the and be able to see what we are about. With rega the complications just enumerated, they are of very importance, being extremely rare; and it is very unl should the complication be diseased structure, wh malignant or otherwise, that it should be confined en

the tissues in front of the hernial sac, and not extend to cellular tissue or structures on either side; should it on, other hand, be a tumour, cyst, or parasitic growth, it uld certainly be beneficial to the patient to be relieved such complication, and that such disease or abnormal wth should be allowed to escape, or suppurate away by lirect, rather than by an indirect opening; that the ration should deprive the patient of his strangulated nia and his abnormal growths, at one and the same e, rather than by cutting on one side, relieve the hernia l defer the growths for some future proceedings. It is y true that erysipelas, suppuration, and even gangrene metimes attack the wound made in the usual operation, also that some patients labouring under disease of l organs, have died after operations for the relief of ngulated hernia, but surely it is not meant to be erted that ossification of the aorta, disease of the brain, ipelas, suppuration or gangrene resulted from the sac ing been opened; this result, or mischief, depending as ust have done upon some constitutional idiocyncrasy, uld equally have followed any wound inflicted on the ent, whether according to Gay's, Luke's, or the usual hod. Neither is bleeding into the abdomen necessarily l; I have seen two cases of wounded artery in the ration for femoral hernia. In both the vessels were fully secured, and the patients did very well.

awrence* relates a case in which the epigastric artery completely divided without occasioning any hæmorrhage ing the operation, or previously to the patient's death was proved by post-mortem examination; also an ance of femoral hernia, where, after the stricture was ded, the wound immediately filled with arterial blood;

* On Hernia, p. 271.

the mouth of the vessel could not be distinguished, but th patient fainted, and the bleeding ceased. The patien ultimately recovered.

As to the risk of hæmorrhage in the operations fo hernia, he entirely agrees with Breschet, who quotes th opinions of Lallemant, and Richerand, that the fear bleeding in these operations had been much exaggerate

Velpeau also relates a case, where, in the body of person who had died from a wound in the abdomen, found the epigastric artery had been completely divided there had been comparatively little bleeding, which ha ceased spontaneously.*

I have before observed that Sir A. Cooper was oppose to Petit's mode of operation, except in cases of lar ruptures; it is true true that in such instances he la considerable stress upon this method, observing "I fe convinced that this operation will be gradually introduc into general practice when it has been fairly tried, a found, if performed early, to be free from danger, a attended with no unusual difficulty." But in neith edition of his Surgical Lecturcs, neither that in the *Lan* of 1823-24, nor that edited by Tyrrell in 1827, does alludc to the division of the stricture without opening t sac, except in largc rupturcs.† On the contrary, allusion to femoral hernia, he says, "When the hernia small, thc practice of not opening the sac becomes obj tionable, on account of the risk of gangrene ensuing in t coats of the intestinc. The aperture in the femoral rupt is so narrow, that long-continued pressurc is morc likely be attended with fatal consequences to thc intestine than thc inguinal species, and, moreover, Key states, notwi

* Nouv. Elem. de Med. Oper. Vol. ii. p. 471.

† South, Chelius, vol. ii p. 44.

nding it is so strongly recommended by the best geons, during the whole period of my attendance at the ough hospitals since the year 1812, the operation tit's) had never been performed;* whilst South adds, t "he has no remembrance of having seen Sir A. per operate without opening the sac, in the many rations for strangulated rupture which he saw him form during the first fourteen years of his professional "†

My objections to Petit's operation are, that it is not licable to all cases, and that consequently the patient is osed to the danger attending error of selection. In per- ning operations, it is our duty to select that method which apable of embracing, as far as may be, all difficulties and lifications which may be met with during such opera- , and which it is impossible to ascertain before the ration is commenced; and moreover we ought to employ mode which holds out the greatest certainty of cting that for which it is undertaken, and of which, in ngulated hernia, we can never be certain, unless the be opened. It is of very great importance that we uld be able to judge of the condition of the contents of hernial sac; whether the intestine be healthy, ulcerated, gangrenous,—whether adhesions confine it to any part he sac; the condition and disposition of the omentum, number of protrusions, the condition and arrangement the sac, whether double, single, or otherwise, and the t of the stricture, are all matters influencing the success he operation.

elletan has frequently found the testicle engaged in the conjointly with a hernia,‡ and although Petit denies

* On Hernia. † Op cit.

‡ Clinique Chirurgicale, vol. iii.

the possibility of such an occurrence, still, in congenit inguinal hernia we can readily understand that such com plications may be met with. Neubeaur dissected a herni sac, the inferior portion of which adhered strongly to th tunica vaginalis testis.* Zimmerman was the subject this form of disease. Meckel, who describes the case says that the omentum which formed the hernia w adherent to the testicle by means of a single band, an free in the rest of its extent.

La Moirier relates a case which he opened, thinking was hydrocele; he discovered it to be hernia, filled wi hydatids, which he cut off, and the patient entire recovered.‡ Reichel gives the account of a boy who h swelling in the right groin, about the size of a pigeon's eg with a severe pain coming on after a sudden attack convulsions. As there was no testicle in the scrotum that side, no constipation, no tension of abdomen, and t pain subsided, nothing was done beyond a dose medicine. The patient, however, died. *Post-mort examination:* The intestines were covered with ga grenous patches; a portion of ileum was fixed in the gro with the testicle, and was constricted and gangrenous.§

Le Dran mentions an instance where a portion omentum adhered to the surface of the sac of a cru hernia, so as to form a bag within a bag, and produci such a narrowing of the neck, that the intestine could n be returned without opening the sac and dividing omentum.‖

* Philosophical Transactions. vol. lvii.

† De Morbo Hernioso Congenito.

‡ Academie de Chir., vol. viii., p. 451.

§ Ludwig Adversario Med. Practica, vol. iii. p. 731.

‖ Obs. on Surgery, translated by J. S., p. 190.

Parrish also relates a similar case.* Richter pointed
it that the omentum sometimes formed a complete bag,
cluding a portion of intestine;† and Mr. Key has
iblished two somewhat similar examples.‡ In 1844,
r. Hewett§ read a paper at the Medico-Chirurgical
ciety, containing the account of four cases of these
nental sacs. In one, the intestine was firmly united to
e neck of the omental sac in the three others the
testine was free from adhesions; he says, "The neck of
e omental sac may become the sole cause of strangulation.
f this, Case 3 is a well marked example. In this instance,
r. Hawkins was obliged, after having freely divided the
ck of the hernial sac and the ring, to divide the neck
the omental sac, before the gut could be reduced."
e proceeds, "had the practice of reducing the hernia
ithout opening the hernial sac been followed in this case;
e gut, still strangulated by the omental sac, might have
en reduced, and a fatal termination been the conse-
ience;" and I quite agree with him that such cases as
ese are a strong argument against the practice of
ducing a hernia, without opening the hernial sac. In a
se upon which I recently operated, the gut was so
vested and concealed by the omentum, that I was obliged
cut through the latter, in order to expose the small
rangulated knuckle of intestine. Mr. Collison has found
e omentum divided above into two portions, which united
low into a cartilaginous and hard mass, and the intestine
as strangulated in this cleft in the omentum. Scarpa
ives a similar instance.‖ According to Mr. South,¶ there

* Parrish on Hernia.
† Traité des Hernies, p. 133.
‡ Practical Obs. pp. 211-214.
§ Med-Chir. Transactions, vol. 27.
‖ Scarpa, vol. 5, fig. 2.
¶ Op Cit

is a preparation in the museum of St. Thomas's Hospita where the gut after division of the stricture, was returne into the belly, yet the symptoms of strangulation continue and the patient died. On examination, it was found th the omentum formed a tight cord upon the intestine as lay transversely behind it on the brim of the pelvis, ar completely prevented the passage of the contents of th bowels through it. Mr. Canton has kindly furnished m with the particulars of a case of femoral hernia in a woma operated upon by the late Mr. Howship at the Charing Cross Hospital, in which there was found, after death, portion of omentum so folded up as to give the appearan of a second knuckle of intestine. Mr. Lawrence has al remarked that the omentum variously altered in structu and arrangement, and sometimes adherent to the sac, ma occasionally be the cause of stricture, the abdominal ri being free.* Richter also points out that the omentu sometimes encircles the gut so strongly as to produ strangulation.†

Again, as regards the condition and arrangement of t sac, and the number of protrusions, Pelletan remarks,‡ " have met with so many instances of multiplicity of sa that they leave no doubt of the fact," and in Guy's Hospi Reports§ we have a most interesting case related Mr. Bransby Cooper. The patient had inguinal hernia both sides, and suffered from symptoms of strangulati That on the right side could be reduced, but circumstan led Mr. Cooper to perform an exploring operation on t left side; the symptoms however continued, and t patient died. Mr. Cooper says, "on examining t condition of the right inguinal region, the seat of the

* On Hernia, p. 310, et seq.

† Traités des Hernies, p 46.

‡ Op Cit, p. 330

§ 1837, p.330.

ducible hernia, we found a portion of intestine in the sac, hich proved as easily reducible as it had been during life it on drawing the intestine out of the situation of the ternal ring, it resisted displacement, as if some adhesions d retained it there; upon further examination, we found portion of intestine strangulated in a small hernial sac, uated anteriorly to the larger one containing the ducible hernia. This, and its containing sac were uated within the cavity of the abdomen, and could not ve been relieved unless an operation had been performed ilst the hernial tumour protruded into the scrotum, for ich there could be no apparent reason, as the part was easily reduced by the taxis.

Ludwig* was called to a female suffering from strangu- ed inguinal hernia; the tumour was so large it might be ken for either crural or inguinal. Although there were signs of external tension, still the symptoms were so lent as to render immediate operation necessary. The rdened omentum was cut away, and the gut returned, it without relief to the symptoms, and the patient died the third day. The post-mortem showed a small crural rnia, which was not discovered during the operation, and ntaining gangrenous intestine. As the femoral hernia is very small, it was difficult to discover and distinguish from the large inguinal hernia, which concealed it, espe- lly as they were so close to each other as to form but a gle swelling.

Mapalin† relates a case of double inguinal hernia on e right side of a patient aged sixty-three. He operated the third day of strangulation; and having opened the c, which was of large size, he observed a portion of

* Adversaria Medico Practica, vol. i.

† Richter, Bibliothek, vol. vii. p. 591.

omentum covering the ileum and part of the cæcum. H
divided the stricture, but could not reduce the gut; wher
upon he cut the ring more freely, and discovered, upo
returning the part, the existence of another tumour, th
sac of which he laid open, and found it to contain omentu
only. This he cut away, and the patient recovered
about seven weeks.

The increased and unusual thickness of the sac will als
in some instances, prevent our being able to judge of t
condition of the contents. Arnaud* has found the sac s
lines thick; Steidale† a line and a half; and Theden‡ thi
quarters of an inch. Whilst, on the contrary, in other insta
ces, the sac has, from some cause or other, been rupture
and the gut strangulated in the opening. Arnaud consid
that a violent blow on the belly may tear the peritonæu
without injuring the skin, cellular tissue, and muscles, a
give rise to hernia, without a peritonæal sac. Garengeo
reports a curious example. A girl was carrying a par
in both hands, when a man rudely seized her; she stepp
suddenly backwards to avoid him, and immediately f
severe pain at the bottom of the abdomen. Gareng
operated a few days afterwards. The hernia consisted
a portion of omentum, and had no peritonæal sac,
latter having been ruptured, close to the ring. Richt
remarks, it sometimes happens that the ordinary her
sac is torn by external violence, or pierced by abscess,
which case the intestine passes through the opening i
the adjoining cellular tissue, or into another cavity, so t
the hernia is partly within and partly without the

* Traité des Hernies.

† Beobachtungen Zweyter Band. ‡ Neue Erfahrungen, t. ii.

§ Op. Cit. vol. i. p. 65.

‖ Operations, vol. i. p. 373.

etit* operated upon a man who had received a violent ick from a horse on a large scrotal hernia. Considerable flammation supervened, accompanied by strangulation, quiring operation. The intestine was strangulated in an pening in the sac. Garengeot also furnishes an example here the sac was opened into by an abscess; whilst a very teresting instance is that cited by Le Cat.† A man long bjected to inguinal hernia, was suddenly seized with rangulation. The ring appeared free but the lower part owed signs of hydrocele. The patient died. The post-ortem examination demonstrated the patient to have ffered from enterocele, complicated with hydrocele. At e bottom of the hernial sac was an opening, through hich the gut entered the cavity of the tunica vaginalis, d was strangulated in this opening. Neubauer gives a milar case.‡

The sac also presents varieties, as to its shape, and the umber and situation of its constrictions. Cloquet has oticed the cylindrical, spheroidal, pyriform, conoidal, ouched, and the sac with a plurality of necks.§ Demeaux‖ tes similar facts. Arnaud¶ found, in one instance, the eck of the sac entirely cartilaginous, three lines thick, and nly about three lines wide. Sometimes the neck of the c is constricted and hardened in two or three situa-ons, and each strangles the intestine. M. Goulmin elationcái** gives a case wherein the neck of the sac rmed five folds, each causing constriction; and Arnaud,

* Op. Cit. p. 4.

† Supplement aux Maladies Chirurgicales.

‡ Transactions Philosoph. vol. lvii.

§ Dissert. de Epipls. &c.

‖ Annales de la Chirurg. Franc. et Etrangere, 1841, vol. ii. p. 317.

¶ Op. Cit. vol. ii. p. 2. ** Med. Theses, xxxv.

an instance where the internal opening of the sac was tw inches behind the internal ring.* Mohrenheim once foun a transverse septum in the middle of the sac, whic constricted the gut, causing two elevations.

The difficulties or uncertainties of the operation fo strangulated hernia are not confined to the above cause but will sometimes be due to the peculiar condition of th protruding intestine, which cannot by any possibility b ascertained, unless the sac be opened: for instance, Be found the appendix vermiformis firmly adhering round th intestine, and causing strangulation. Richter pointed ou that the parts adhere to each other and to the sac, an may be so twisted as to cause fatal ileus. Sir A. Coope mentions a case in which, the sac having been opened, th intestine was found very difficult to reduce, from a adhesion between it and the mouth of the sac, but it wa at length apparently returned into the cavity of the bell Two stools were procured by clysters, on the day followin the operation, but from that day until he died, ten day afterwards, he had no stool. At the post-mortem, h found a portion of ileum in the mouth of the sac, double back within it. The small intestine above this portion wa inflamed and greatly distended, and the jejunum in a sta of mortification. Richter† observes: we, sometimes, large herniæ, find the omentum and intestine twiste together, producing strangulation; and Velpeau‡ relat a case in which the cæcum, descending into the scrotu was so twisted upon itself, that its posterior surfac uninvested by peritonæum, had become internal, or rath anterior. Scarpa has seen an analogous example Chopart and Desault have seen the cæcum uncovered b

* Op. Cit. p. 22.

† Op. Cit. p. 133.

‡ Dict. en 25 vols., vol. xvi. p. 457.

§ Memoire ii. p. 34.

itonæum under the integuments of the scrotum.* ol† also notices that the intestine may become in- inated whilst in the sac.

have in some instances found, notwithstanding the gut been apparently, and indeed, in reality, returned into abdomen, that upon introducing my finger through rings into the abdomen, (a practice strongly urged by vrence and Richter, which I invariably pursue, and ch I would advise every surgeon to adopt in these rations), I have found the gut united to the margins, he inner ring, and in some instances, the omentum or entitious band adherent, and crossing over the gut, ding it down, which certainly could not have been dis- ered unless this plan had been pursued. I some time ago nessed an instance strongly illustrative of the importance his proceeding; it was a case operated upon by Mr. nton, at which he kindly asked me to be present; the was, to all intents, returned into the abdomen, but n Mr. Canton introducing his finger as a precaution, acertained a distinct band passing over the intestine, ch must have led to bad results had it not been covered and divided; the patient did well. What, may be asked, would have been the result had it's operation been performed in this case? I will mention two cases which occurred in my own tice, the one that of a gentlemen upon whom I ated for strangulated inguinal hernia; I divided the ture, and returned the gut into the abdomen, but ough it went back, and remained there, upon intro- ng my finger, and examining the inner ring, I dis- red a very strong band binding down the intestine,

* Traite des Mals Chirurg. vol. ii. p. 195.

† Dictionnaire des Sciences Medicales, vol. iii.

which I divided, with instant relief to the patient. Th
other was a patient of the Charing-cross Hospital, an
occurred about nine years ago; he presented himself wit
strangulated inguinal hernia; I reduced it without diff
culty by the taxis; peritonitis came on, and the patie
died, strangulation remaining to the last. *Post-morte
examination*:—The intestine had been completely return
into the cavity of the abdomen, but an adventitious ban
adherent to the upper part of the internal ring, cross
over the small intestine, constricting above eighteen inch
of the gut. Similar cases are noticed by the late M
Todd, of Dublin, and, indeed, by most other surgeon
and Ouvrard, in his "*Meditations sur la Chirur
Pratique*," gives the post-mortem account of a pati
who died three days after the operation for strangulat
inguinal hernia. The stricture at the external ring h
been freely divided, but that at the inner ring remaine
the protruded intestine had been pushed between
peritonæum and the abdominal muscles, the peritonæ
being separated for two inches, and forming a s
in which the intestine lodged, and to which it adher
Pelletan also mentions a case for which the operation
strangulated hernia proved unsuccessful, the patient dy
in two or three days. *Post-mortem examination*:—
intestine had been forced into a membranous pouch beh
the pubes, communicating with the external sac by
opening eight lines wide. The intestine was strangled
the neck of the inner sac, and was not returned by
operation. These cases could not have been mistaken
the mischief overlooked, had the proper precautions b
observed.

The objection urged by Heister, Richter, and Louis,
more recently reiterated by Mr. Travers, jun., that

tit's operation we do mischief by returning fetid and composed fluid into the cavity of the abdomen, is not so ile or groundless as insisted upon by the supporters of s method. It is confidently advanced, in opposition this objection, that we would not hesitate to return the id by taxis into the abdomen; why, therefore, object to urn it by a modification of the taxis? This reasoning, vever, is scarcely just. Does this fetid, decomposed id exist in the sacs of hernia capable of being uced by the taxis? Is not this peculiar fluid the result excessive constriction, and is it not a sign of organic nge going on in the strangulated contents? Cheselden erted he found above two pounds of this fetid fluid in sac of a strangulated hernia; and it frequently occurs cases where the gut is verging on gangrene, that a ntity of very offensive, almost putrid, matter, or fluid, apes when we open the sac, which I very much doubt ny one would feel desirous of returning into the cavity he abdomen.

here is no doubt that both surgeon and patient would ingly avoid an operation where practicable, but this does at all establish or support the charge of "inconsist-y," brought by "Enquirer" against the surgeon for ning the sac when obliged to operate. "Enquirer" ; "When the operation is had recourse to in due time, t new reason makes a change of plan necessary? y will he open the sac now, when he would most wil-y have reduced it but a few minutes before by the means lly called the taxis?" The new reason, and a very cient one, exists in the necessity for operation at all. ly we cannot consider a patient in whom the hernia be reduced by taxis, and one in whom such return is

* Edinburgh Medical and Surgical Journal.

impracticable, in one and the same condition. The ve impossibility of returning the gut or contents of the sac a sufficient reason for opening the sac and doing that whi is necessary for the relief of the patient. It must be allowe that where the taxis succeeds early, and after modera employment, the patient is in a better condition th when operated upon, let the method be what it ma for the return of the gut would be a fair presumpti proof that the intestine had not been subjected to mu violence by the stricture and that the danger of inflamm tion would be in proportion; but this cannot be said wh the strangulation is complete. The effects of this strang lation are so various upon different individuals, that af the mischief has existed but for a few hours, it is impos ble to say, with any degree of certainty, what may be organic changes undergone by the hernial contents, unl the sac be opened. We may talk about "the operat being had recourse to in due time," but, comparative how little control has the surgeon over this matter. certainly ought not to lose time when the case is presen to him, but how few cases come under his notice wh the strangulation has existed less than four and twe hours—a quite sufficient time for the gut to be so inju as to be deprived of its vitality.

It is true that Mr. Gay says, "adhesion of the intes to the surface of the sac, the possibly gangrenous stat the saccular contents and stricture of the neck of the have been arrayed as objections, but these condition the hernial parts cannot be considered as objections to operation under review, since they belong to a clas cases for which the mode of operation in question never designed."* But Mr. Gay does not inform us

* Gay on Hernia.

: are to distinguish such cases. How is the inexpe-
nced—or even the experienced—surgeon to tell whether
hesions exist between the intestine and the sac, or
tween the folds of the intestines themselves, unless the
: be opened? How is he to tell with any degree of
tainty whether the intestine or omentum be gangrenous
less he has the opportunity of seeing them? I admit
t in a great proportion of such cases there is a peculiar
pearance and odour when we cut through the skin, that
l frequently guide us, but I have equally met with cases
which, although such appearances and odour were
sent, the contents of the sac were not at all gangrenous,
se signs being due rather to the condition of the
erings induced by rough handling; and what is of far
re importance, I have met with other instances in
ich these signs were altogether absent, and where, upon
ning the sac, the intestine was in a sloughy condition.
Again, if this mode of operation is not intended to
ly to cases in which the stricture exists in the neck of
sac, its sphere of action is very limited; and so far
n becoming a method of general adoption, it will be
nd to apply, according to Dupuytren, to merely one
e in nine, in inguinal, although in femoral hernia its
lication is more extensive.

Mr. Key says a prominent character of the operation,
one that raises it above many of the objections that
e been brought against it, is, that should the attempt
xecute it fail, either from want of dexterity on the part
he operator, or from any peculiar difficulty in the case,
operation can be completed in the ordinary way by
ng the sac open." This is true, if the difficulties occur
ing the progress of the operation; but they do not
ays do so. On the contrary, the operation may

proceed at the time most satisfactorily; the contents o the sac may appear to slip up with the greatest ease; an yet, from complications which would have been manife to the surgeon in the usual method, the patients hav remained unrelieved, and been ultimately lost. Were th facts such as stated by Mr. Key, there could not possibl be a doubt of the propriety of adopting Petit's operatio in all cases of strangulated hernia. If we were certai that by so acting we did not expose our patients to risk which might be obviated by the usual method, we ough not only to adopt, but to enforce, this practice; bu unfortunately experience proves the fallacy of this doctrin and of the assertion that neither patient nor surgeon are a worse position than if the sac had been opened in th first instance, without the attempt to preserve it entire.

In support of these views, I would instance the tw following cases published in the fifth volume of *Guy Hospital Reports*, occurring in the practice of Mr. Coc of Guy's Hospital.

In the first case the patient was ruptured on the 20t and operated upon on the 23rd of May. Mr. Cock say "I had no difficulty in returning the contents of t tumour after having divided the stricture external to t sac, which was thick and indurated."

The patient died on the 2nd of June.

Post-mortem examination.—General peritonitis of l form. In some parts the viscera were sticky, and sligh adherent. In one or two places intestines firmly adhere a firm connexion had become established between a dar coloured portion of the ileum (evidently the part wh had been strangulated) and the internal surface of t hernial sac, which had become inverted and slightly dra up into the abdomen, presenting a discoloured appearan

ien this adhesion between the intestine and sac was troyed, a minute quantity of pus escaped from between two surfaces, and the commencement of the process of eration, which would doubtless, in the course of time, e established an artificial anus, became apparent. The itonæal surface of the bowel, at this spot, was of a k, leaden hue, and the corresponding mucous lining already destroyed; no actual perforation had, however, yet taken place. From this spot the colour of the vel, both internal and external, became by degrees mal as the tunics of the gut were traced to their axes. attempting to trace the course of the small intestines, as found that a portion of the ileum had been drawn er the knuckle of the bowel, which was adherent to the ; and that confined in this situation, and unable to right f, it had become partially twisted upon itself.

he second case was that of a gentleman, aged sixty, had strangulated femoral hernia of three days' ding; his belly was tense, and there were signs of tonitis. Mr. Cock divided the stricture, and returned bowel, without opening the sac; but although relieved pain there was no decided improvement in his lition, and he died within forty-eight hours of the ation.

ost-mortem examination.—General peritonitis, with ndant effusion of plastic lymph. The intestine which been contained in the sac had in a great measure vered itself, and the contents had passed freely through om above. A more decided and permanent obstruc- was, however, found a few inches lower down, where bowel was crossed, and firmly compressed by a band mentum, just previous to its entering the internal ring. condition was evidently one of long standing, and had

produced contracted undilatable state of the intesti leaving an opening which would barely admit the point the little finger.

Mr. T. Wakley operated according to Petit's method f femoral hernia of twenty-four hours' duration, on the 10 of October, 1848, without relief to the patient. On t 12th, presuming that some stricture might still exist with the sac, Mr. Wakley removed the dressings, and made cautious opening into it, when a very small quantity bloody serum escaped. The parts in the neighbou hood of the ring were found to be free; the patie however, died on the 14th, without any remission of t symptoms.

Upon examination, the strangulated portion of intesti was found to be scarcely more than an inch long. T was dark-red or chocolate coloured, thicker than natur and covered by thin, irregular patches of lymph, a moreover distinguished from the rest of the intestine two constrictions, one so deep as almost to obliterate t canal, the other diminishing the calibre of the gut to h its natural dimensions. At the seat of these constrictio externally there was a considerable deposit of yell lymph, which glued the strangulated knuckle to t adjoining portions of the intestine, and also to the neck the hernial sac.*

Here, then, are cases occurring in the practices, not inexperienced men, but in those of surgeons in constant habit of operating for strangulated hernia; th was no force used in returning the bowel, no difficulty with, but in consequence of that condition of parts exist which might readily have been discovered had the been opened, but which could not possibly be ascertai

* The *Lancet*, March 24th, 1849.

the operation selected; the patients were in all pro-ility, lost.

Several other cases might be mentioned, occurring in the ctice of Sir E. Home,* Acret,† and others, but the above sufficient to support my position.

t has been urged that my objections apply equally to employment of the taxis as to Key's or Petit's ration, and I admit, that to a certain extent, they but there is this distinction between the taxis and operation, that in the case of the former, should the nptoms recur or continue, we feel that we have merely oloyed a preliminary proceeding, and therefore can at e proceed to operation, and ascertain the cause of chief. We have here performed only one operation, the patient sustains the shock and dread of merely operation; but the case is widely different where we e already operated, and the symptoms still persist. are led to imagine that we have done all that the case nits of—that the persistent symptoms depend upon the ry sustained by the gut. We treat the patient accor-gly; much valuable, and, under the circumstances, most aluable time is lost, and should we at length make up minds that something more should be tried, we are ged to recommend a second operation to our unfortu-e patient, with the humiliating feeling, that through our cting the wrong mode of proceeding in the first ance, we have increased his sufferings, whilst we have terially diminished his chances of recovery.

The result of the taxis, although the hernia may be hed into the abdomen, is so uncertain that we can er regard it either as final or infallible; various causes

* Dublin Hospital Reports, 1833, vol. i.

† Observations, p. 163.

may militate against its success. We have already see in the case related by Mr. B. Cooper, of double protrusio that although the larger hernia could be easily reduced, t smaller one, overlooked, caused the death of the patient.

I was, in the latter end of last July, requested by m friend, Mr. Edwards, to see a lady aged seventy-six, t subject of umbilical and femoral hernia of the left sid of several years' duration. She was then suffering severe from symptoms of strangulation: constant vomitin severe pain, and, more or less, swelling of the abdome The umbilical hernia could be returned with the greate ease, but the femoral was very hard and painful, a evidently strangulated; it was therefore thought advisab to operate without delay, as it could not be reduced. T gut was dark coloured, but otherwise healthy. The pa and sickness were relieved for about six hours, when t sickness returned and continued until death, eighte hours after operation.

Post-mortem: The constricted gut had been entire freed, and although still high coloured, was shining a healthy, and, as far as the femoral hernia was concerne the result of the operation was satisfactory; but the tran verse arch of the colon which constituted the umbilic rupture, although capable of being returned into the abd men, was firmly attached to the edges of the ring numerous strong bands, which crossed over it in vario directions, and by their pressure had reduced the gut less than half its natural size.

In some instances, the violence employed, combine or otherwise, with lengthened strangulation, has so i jured the intestine, and destroyed its vitality, that dea ensued within a very short time after its return in the abdomen, where the post-mortem examination h

w it mortified and lacerated, whilst in one of the following cases, the patient escaped through the formation of artificial anus.

Dupuytren * relates the following:—A patient had oral hernia of the right side, of twelve years' duration; ecame strangulated, and was reduced by taxis, but out relief to the symptoms. The hernial sac became amed and suppurated; the skin ulcerated, leaving an ficial anus, after which the symptoms of strangulation sided, and the patient recovered.

Pelletan† gives the account of a case of crural hernia ced by the taxis, after eight days' strangulation, fol- ed by death within an hour after its reduction. He s, "The surgeon in attendance considered that he ht to try again to reduce it, and after some trouble, eeded in forcing it suddenly back. *Post-mortem examination.*—General inflammation of the belly and peritonæum. The mortified gut was torn in several places.

In the eleventh of the cases related by Key,‡ the rupture had been returned before the operation, and the sac found empty. *Post-mortem examination.*—The intestines dark and dusky; sero-purulent effusion into the abdominal cavity.

Sir C. Bell, in his "Institutes of Surgery," vol. ii., p. 32, s, "When I was surgeon of the Royal Infirmary here, re going to London, a case of bubonocele presented, ch I could not reduce, and, as was the rule of the se, I called a consultation. When the consultants and went into the ward, the house-surgeon came ward with a glow of triumph in his face; he had saved

* Leçons Oracles, vol. iii., p. 557.

† Op. cit. vol. iii., p. 424.

‡ Memoir on the External Division of the Stricture in Hernia.

us the trouble; he had reduced the gut. And so he h and the tumour was gone. Next morning this man di in great agony, and on dissection I found the intesti burst just where it had been nipped by the stricture."

Again, it sometimes fails from adhesions within t abdomen, or from the peculiar disposition of the omentu from internal bands, or from other complications, whi the following cases demonstrate. The cases related Mr. Hewett, and already alluded to, show how the ome tum may prevent the successful application of the tax M. Vidal also* relates a case in which, although the g could be easily returned, and as easily escaped, t symptoms continued, he fancied that the mischief depend upon a portion of omentum remaining adherent to the s he accordingly operated, and removed the omentum. T patient recovered.

Peyronie† reduced an incarcerated hernia, as he thoug successfully, but the symptoms continued. The ring w free, but the patient died. *Post-mortem examination.*— portion of omentum adhering behind the ring, formed loop, which strangled the gut.

Louis‡ has reported a similar case, ending in death. found the mesentery adhering by abnormal bands to t upper part of the sac; these bands surrounded and co stricted the intestine.

Pelletan§ endeavoured to return the tumor of six da duration. The greatest portion returned with a noi which could be heard by all present, but the patient d during the day. *Post-mortem examination*: Gene

* Gazette Medicale, 1835, p. 58.

† Acad. de Chirur., vol. iii., p. 327.

‡ Acad. de Chir., vol. xi. 432.

§ Op. cit., p. 349.

lammation of the peritonæum, with old adhesions. A tion of omentum remained outside the ring, forming atty tumour. Above the ring was the portion of ileum ich had protruded, of a red colour, and adherent the hernial sac. The sac was filled with bloody um.

In another case related by Pelletan,* the hernia accomnied by testicle internal to the ring, was reduced by is. The symptoms however continued, and the patient d fifteen days after. *Post-mortem examination.*—usion in abdominal cavity. The portion of gut had shed the peritonæum before it, and contracted adhesions ween it and the testicle, and was constricted between latter and the edge of the ring.

I would also refer to my own case in the Charing-cross spital, already related as a proof of the necessity of eful examination of the internal ring in the operation strangulated hernia.

Bush† gives the account of a case of inguinal hernia, ich was several times reduced by the taxis, and as frently protruded without abatement of symptoms. The tient died on the third day. A membranous band ssed over the intestine in the abdomen, binding it wn, and causing strangulation.

The gut, also, from the constriction to which it has been jected, may become so contracted as not to allow the ssage of the contents of the alimentary canal, although eved from all external pressure. Ritsch‡ mentions an tance in which the gut was returned by operation into abdomen, but the symptoms continued, and the patient d. The intestine was so much contracted at the two

* Op. cit., p. 394.

† Medical Gazette, vol. x.

‡ Acad. de Chirur. vol. xi., p. 271.

points of constriction, that the canal was entirely oblit rated. Mertrud and Contavoz* relate similar facts.

But by far the most frequent cause of failure of t taxis, is the return of the hernia, sac and all, the return, *masse*, of the eighty-four cases, the particulars of which have collected, wherein the hernial tumour had be reduced but without relief to the symptoms, forty-four a examples of "*réduction en masse.*"

The foregoing, whilst they prove in what manner t taxis may be unsuccessful, are certainly strong argumen against the adoption of Petit's operation. The same caus of failure would exert their influence in either proceedin whether of taxis or operation, whilst in the usual meth they would be ascertained at the time of operation. should be borne in mind, that these complications a not met with merely in isolated cases; they are far t numerous to be disregarded; and I would submit tha with these examples before us, and having the power selecting between Petit's and the usual method, we a not justified in adopting the former.

Since the publication of my first paper, I have receiv the following letter from Sir John Fife, which he kind permits me to make use of. It so completely supports m views, and contains so much valuable information, that am induced to give it verbatim.

"*Newcastle-on-Tyne, July 26th,* 1849.

"Sir,—I write to express the gratification afforded m by your practical remarks on Petit's operation for hern which I have just read in *The Lancet*. When a stude I saw three cases of hernia, in which the ordinary oper tion was apparently well performed, but each of the

* Acad. de Chirur. vol. xi., p. 271.

ee cases terminated fatally, and in each a post-mortem mination demonstrated intestinal obstruction from adions, agglutinating opposite convolutions, or otherwise rowing the calibre of the intestine. These cases made rong impression upon my mind, and since that time I e operated many times a year for more than thirty rs, and I have never considered my operation satisfac- without passing my finger through the peritonæum the abdomen, and ascertaining that the intestine was within.

In 1831, while accompanied by Dr. Foster, surgeon to 4th Dragoon Guards, Mr. Parr, and many other genmen who came to the Newcastle Eye Infirmary to see ee cataracts extracted, I was summoned to operate on oor woman at a short distance, who had been in danger a strangulated femoral hernia for three days; fortitely those gentlemen accompanied me. The operation apparently completed in a few minutes; but on ing my finger into the abdomen to assure myself that intestine was free to perform its functions; I felt it nd down to the sheath of the iliac artery by a strong esion. My companions then examined, and were fied of the fact. They were aware of the necessity of ding the adhesion, and also of the extreme hazard of step. The finger nail was tried in vain; at last I oduced a bistoury with great caution. The intestine freed, but the gush of blood that followed was such as ave no doubt of the catastrophe that had occurred. I sed my left forefinger on the Iliac through the wound; the other hand I enlarged the external wound ards and outwards, and was soon enabled to pass ature, with a bent probe under the artery to secure This poor woman never had a bad symptom after-

wards. The circulation gradually returned to the lim and the ligature came away about the twenticth day.

"This case shows two important facts, which d monstrate the correctness of your views.

"1st.—That unless the peritonæum be freely opene and the abdomen examined for some little space within t strcture, an operation for hernia cannot always be co sidered complete.

"2nd.—That the external iliac may be cut, and ti through the peritonæum, and the ligature may remain the peritonæum without inducing peritonitis. The wom died of cholera some years afterwards, when Mr. Pa made an autopsy, and dissected out the ligatured porti of the external iliac."

I now pass on to the consideration of the statistics the two modes of operation, as furnished in a late wo on femoral hernia,* and would here express my dissent fr the position assumed by Mr. Key (op. cit.), that notwi standing "the danger of the operation is by no means t same under all circumstances of strangulated hernia; th when the operation is performed early, before untowa symptoms have supervened, it is usually attended with fair prospect of success. In estimating the risk of operation, we must not separate the favourable from unfavourable cases; we should form our judgment up the nature and issue of the aggregate cases that pres themselves to surgeons in the ordinary course of practic

In forming an estimate of the relative value of t operations for the same disease, we should base our cal lations upon operations performed upon cases as nea similar as possible, and not confine one operation

* Gay on Femoral Hernia.

ourable cases, employing the other indiscriminately, l then cast up the successful and unsuccessful termina- ns without reference to collateral circumstances.

In Table 1, contained in the work already alluded to, find the following analysis of one hundred and ninety- ht cases, showing, according to the author, the relative ount of mortality attending each mode of proceeding; I am bound to acknowledge that the proportion of veries, according to this table, appears greatly in our of Petit's operation, being fifty-two deaths to enty-three recoveries, where the sac was opened, only thirteen deaths to sixty recoveries, where it not.

Whence obtained.	Total cases	Sac opened	Reco- vered	Died	Sac not opened	Reco- vered	Died
cellaneous.....	57	48	23	25	9	7	2
vship.....	8	6	3	3	2	—	2
nd, Report of Guy's ospital	17	12	5	7	5	3	2
Luke	82	25	17	8	57	50	7
George's	34	34	25	9	—	—	—
	198	125	73	52	73	60	13

will take the cases of Howship, Poland, Luke, and vett, (of the miscellaneous, I have no means of ging,) from the above calculation, and endeavour to v the degree of value which we ought to attach to the istics advanced. Mr. Howship's operations are eight umber, six in which the sac was opened, two accord- to Petit's mode, both of which died. Of the six in ch the sac was opened, three recovered, three died; from ossification of the aorta and larger vessels, one ulceration and bursting of the intestines, and the r, evidently from purgatives and tobacco administered. gain we take Poland's recorded cases of Guy's pital, nineteen in number, of which seven died, the

sac having been opened. Of these seven, one ha ruptured the intestines in his endeavours to return before the operation; two had gangrenous omentum one, the parts had so nearly lost vitality, that the woun was not closed, while the last proceeded favourably unt the third day, when, having had purgatives (enemata an medicine) daily, since the operation, violent purgin ensued, followed by peritonitis, which, after the patie was leeched, bled, &c., destroyed him.

The most ardent supporters of Petit's operation w scarcely assert that opening the sac had anything do with the death of the patients in these cases, pa ticularly when it is remembered that purgative medicine and injections were administered in all, both before a immediately after the operation. Would the conditi of these patients have been at all improved, had the s not been opened, consequently seven, if not the who of these cases, should be left out of the calculation.

Again, with respect to Mr. Luke's cases, which appe so greatly to favour the modern operation. These a given at eighty-two, in twenty-five of which the sac w opened, resulting in seventeen successful terminatio whilst of the remaining fifty-seven in which the sac was opened, fifty recovered, and only seven died. But Luke, with his usual candour, throws a very different lig on the matter. He says, "Between 1831 and 1841, I ha attempted the performance of Petit's operation, in eigh four cases. Of this number the operation was comple successfully without opening the sac in fifty-nine. twenty-five, it was necessary to open the sac to effect reduction, the opening generally varying from half to th quarters of an inch. With respect to the mortality of fifty-nine, seven died; of the twenty-five, eight died.

ls, however, although it may be expedient thus to state a general summary the results of all cases submitted to tit's operation; yet, for the purpose of satisfactory nparison, those cases which were selected from nerous others, and which, therefore, may be presumed yield results more satisfactory, should be excluded, as o should those cases be, which, from their nature, could be expected to be benefited by any operation of any cription, or even by the taxis, could it have been cessfully performed." For the above reason, he ludes twenty-six cases selected between 1831 and l, and also four others, three of which were moribund the time of operation, and the other had recovered n the operation, but died six weeks after, from ulcer- n of the bowel, so that subtracting these thirty cases, -four remain. Of the fifty-four, the sac was opened wenty-one, of which, three died; and not opened in ty-three of which, two died; so that, considering the s of cases requiring the opening of the sac, the rate of tality does not appear to be so much greater in that le than where the sac was not opened. I cannot agree n Mr. Luke in considering that "the necessity to open sac implies neither a greater degree of constriction of hernial contents, nor a consequently greater severity of from organic lesion, than in instances in which no necessity occurs." For if there be greater danger in lling the gut itself than through the sac, surely there t be greater danger where constriction is made directly he gut by the neck of the sac, than where such con- tion is caused by the tissues around the sac, and exerts its influence upon the neck of the sac, and ugh it upon the intestines. And this is borne out by fact that the mortality was greatest in Luke's cases, in

inguinal hernia, where stricture at the neck of the sa most frequently occurs. However it must be admitte that Mr. Luke has been most successful; fortunate alik in the result of operations, and in the class of case submitted to his knife, for few surgeons, if any, can boas like him, of having operated upon fifty-four unselecte cases of hernia without meeting with a single instance complication.

Lastly take Hewett's cases, thirty-four in number, which nine died, all having the sac opened. Of these nin there was sloughy intestine in one instance combined wi pneumonia; in one, sloughy omentum; in one, portio of sloughy placenta in the uterus, found after death; one, disease of the brain; in two, the intestine a omentum were left in the sac, in consequence of adh sions; and in one only was there mere peritonit combined with intestine of a dark, mahogany colour, b neither thickened nor softened.

I need not go further into these details: I trust that have entered sufficiently into the subject to prove that t mortality even according to Mr. Gay's statistics, is n due to opening the sac, but to circumstances tota unconnected with the operation.

We have here the account of 126 cases, in eighty-six which the sac was opened. After deducting the fift which must have proved fatal, whatever operation h been performed, seventy-one fair average cases in wh the sac was opened remain. Of these eight termina fatally, or one in nine, whilst, on the other hand of forty in which the sac was not opened, after deducting in which the aorta was ossified, we have thirty-nine, which five terminated unsuccessfully, or one in seven a half.

Through the kindness of Mr. Hamilton and Mr. Puleston ıave been enabled to obtain the particulars of 548 cases strangulated hernia, collected from various sources. Of ese the sac was opened in 474, the operation proving ccessful in 307, unsuccessful in 167. In three the gut s injured in dividing adhesions; sixty-one proved fatal hout any complications, and of the remaining 103, in rty-three the gut was gangrenous; in thirteen it was ıgrenous, and had burst; in thirteen the gut was perfoed by ulceration; in one the patient had burst the estine in his endeavours to return it before the operation; six, the intestine was adherent to the internal ring; in en, adherent to the sac; in eight, gangrenous omentum; seven, adventitious bands and adhesions together; in , double sacs; in two, sacs contained pus; in one, on was twisted, and could not be returned; in one, tit's operation was first tried and failed; in one, patient irious, in *articulo mortis*; in one, sloughing placenta nd in the uterus after death; in one disease of the in; in one, ossification of the aorta; in one, encysted nia of tunica vaginalis, unrelieved; in one, pneumonia, r twenty-three days; in one, constricted intestine point of stricture, the rectum severely ulcerated from y hot enemata; in one, patient had been operated upon e times, and in another, the patient had taken several es of croton oil, turpentine, &c., before the operation; nediately the gut was liberated, the bowels began to and continued to do so, almost without intermission, il she died, twelve hours after.

t should be stated that the condition of parts here given in almost every instance found at the time of opera-, and not merely observed after death; it must therefore admitted that the above 103 cases would have termi-

nated fatally had Petit's operation been performed, conse quently the number should be calculated at 307 successfu sixty-four unsuccessful, or one in six.

On the other hand, the sac was not opened in seventy four. In five it failed, under circumstances which woul equally have influenced any operation. I therefore leav those out, and take unsuccessful cases, in one of whic the gut was wounded at seventeen, leaving fifty-tw successful cases, or one in four.

Having, in the preceding remarks, explained my reason for objecting to Petit's operation for strangulated herni I would now inquire into the general treatment, as com monly pursued, in connexion with the usual method opening the sac, and consider the influence likely to exerted by such treatment over the success of the oper tion; but, before doing so, I would briefly advert to t influence apparently exerted by the age of the patient, is shown by the following table of 357 cases:—

Age.	Number Operated upon.	Recovered.	Died.
Under 1 year . . .	2	2	—
Between 1 and 10 . .	3	3	—
„ 10 „ 20 . .	7	6	1
„ 20 „ 30 . .	55	36	19
„ 30 „ 40 . .	51	32	19
„ 40 „ 50 . .	63	40	23
„ 50 „ 60 . .	73	52	21
„ 60 „ 70 . .	60	32	28
„ 70 „ 80 . .	30	17	13
„ 80 „ 90 . .	11	6	5
„ 90 „ 100 . .	—	—	—
Above 100 . .	2	2	—

From the above it appears that the greatest amount success attends the operation performed upon individu under 20 and above 100 years of age; that the next m successful period is between 50 and 60, the rate of m

ity being about one to $2\frac{1}{2}$ recoveries; next, between and 50, the rate of mortality being one to $1\frac{3}{4}$; and, tly, from 60 to 90, where the number of deaths nearly uals that of recoveries.

It is generally admitted, that the fatality attending erations for strangulated hernia has, in a great measure pended upon delay, and prolonged and improper em- yment of the taxis. Dr. Pirrie observes:* "I have rformed the operation for strangulated hernia, according the usual mode, a very considerable number of times, id in every instance with success, which I attribute to o things — namely, avoiding all undue and useless ndling, and performing the operation early." But there another cause of fatality which frequently occurs, and ich, therefore, is worthy of our serious consideration: allude to the many instances in which the existence of rnia has either been entirely overlooked, or not inquired o, and where the patients have been supposed to be fering merely from constipation, or bilious attacks, until late for surgical relief. The probability of the existence hernia should be present to our minds in all cases of stinate constipation, particularly when accompanied by niting, and should be one of the first points of inquiry l examination, instead of the last, as is too frequently case.

Within the last twelve months, I have operated upon ee patients, who had been treated for several days, ply for constipation and sickness, when the suspicions the gentlemen in attendance having been excited as to existence of hernia, examination proved such to be fact. In one, the gut had sloughed, and the patient ed about a month after the operation, with an artificial

* *Edinburgh Monthly Journal of Medical Science*, May, 1848.

anus. In the second, the symptoms had been overlooke for eight days. I operated without loss of time; but th gut had undergone such a degree of constriction, that i gave way at the strictured point, three days after th operation, and the patient died from the escape of th contents into the abdomen. In the third—the case of lady, aged eighty-two—the symptoms had been preser above a week before attention was directed to the hernia The operation was performed without delay. The gut— extremely congested, although not mortified—was to much injured for recovery, and the patient lived merely few hours. Individuals who are ruptured are frequentl subject to constipation, which will sometimes, after a fe days, yield to medicine, when apparently all inconvenien passes away. At length, however, the gut becomes co stricted, the same train of symptoms supervenes: th medical man, assuming it is an attack of the "old com plaint," treats it accordingly, until, the symptoms becon so alarming, he is forced to make an examination; h discovers the strangulation, but too often, unfortunatel when the patient is past recovery.

A young lady, aged twenty-one, was attacked wi sickness, accompanied with obstinate constipation of t bowels, for which she was treated by her usual medic attendant for several days without success. This gent man having been called into the country, another medic man was consulted, who, suspecting the existence hernia, insisted upon an examination, when the tr nature of malady, which, from false motives of delica she had concealed, was discovered; she was operated up by the late Mr. Key, but the gut was found mortifi and she died in the course of a few hours. These cases which have, within the last few months fallen un

own observation; I could instance many others which ve been met with by other surgeons, were it at all cessary to do so. It may appear, and, indeed, is to ne, a work of supererogation to allude to this point; the fact is so often forced upon our attention by es such as here related, that so long as such mistakes ur, it cannot be too frequently urged, or too strongly isted upon. The patient not only suffers from the ay which of itself is sufficiently detrimental, but the rsight leads to the adoption of a most injurious line of atment. Purgatives of a drastic character, are administered to overcome the constipation; the gut is thus jected to excessive irritation; vomiting and pain are reased, and the patient is so reduced by suffering, that en at length the true cause of mischief is discovered, the operation performed, it is so under every disadtage; for even when the gut retains its vitality, the ient is too frequently unable to bear the shock of the ration in addition to his previous sufferings; and hout any effort at reaction, he sinks and dies in the rse of a few hours.

The same objection may be urged against the practice exhibiting purgative medicines in cases of strangulated nia for the purpose of causing reduction, and thus venting the operation. The object of this treatment is to be, that "by exciting the peristaltic action of the stines, we induce spontaneous reduction; but, on the er hand, it should be remembered, that when complete ngulation exists, the gut no longer remains in its lthy and normal state. The peristaltic action is a ction of the part depending upon a healthy condition; it is one of the great characteristics of inflammation or on of a part that it becomes for the time deprived of

its power of healthy action, and can no longer perform i
natural and proper functions; and thus medicines exertin
a specific influence upon organs in a state of health, a
injuriously upon such organ when diseased. Take f
example the action of belladonna or atropine upon
healthy iris; they cause it to contract, and the pupil
become dilated; but apply either where the iris is inflame
and we no longer find the same influence exerted. Th
pupil, if anything, becomes more contracted; the violen
of the inflammation is increased; the part has be
deprived, by the inflammation, of the power of exertin
its natural functions, and by attempting to arouse the
functions before we have subdued the inflammation,
only aggravate the patient's sufferings, and do mischi
The same argument applies to the employment of purgativ
in the reduction of strangulated hernia, only with doub
force, for in the former instance we hazard an eye merel
in the latter, the patient's life. The endeavour to exc
this increased peristaltic action in the intestines above t
stricture, is based on mistaken views; if the gut be not
yet inflamed, and we succeed in inducing such action,
do no good; we only increase the mechanical injury to t
constricted part, by dragging upon it, whilst we at t
same time increase the violence of the sickness, and a
to the patient's danger. If, on the contrary, inflammati
has already set in, the intestines no longer possess t
power of acting, and all endeavours to force them sho
be rigidly abstained from. I have often seen viol
sickness induced by the exhibition of purgatives in stra
gulated, even in incarcerated, hernia; and the fact is
frequently noticed in the various cases related, that it
matter of surprise the practice should be persisted in wh
its bad effects must be manifest.

Nor are the evil consequences restricted to those here ided to. In some instances, the action of the aperients pears to become concentrated, so that after the gut has n liberated, by whatever means, whether by operation otherwise, the patient has been so violently purged as oe unable to bear up against it, and has accordingly n lost. A lady had been subject to constipation for eral years, but had from time to time been relieved active purgatives; at length she had a more violent ck than usual, accompanied with continued and ent sickness, which, however, did not yield to the licines administered—namely, calomel, colocynth, tur- tine, croton, castor oil, &c. A very careful examination losed a small, deep-seated swelling in the right groin ch was free from pain, and could only be discovered bending the thigh upon the pelvis, and bringing it ss that of the opposite side. I was at this time sent (about nine days from the appearance of the symp- s,) when it was agreed that I should cut down and ve the gut, which was done without any difficulty, the being in very good condition, at ten o'clock at night. w her again at seven o'clock the following morning, found her moribund, passing her motions involuntarily, was told that her bowels had begun to act about half hour after I had left on the previous night, and that had continued to act almost without intermission. ough able to check the inordinate action, we were too ; she never rallied; she was literally purged to death, motions smelling most powerfully of turpentine and on oil.

f the gut be really reducible, it may be returned by h more safe and harmless measures; and if these fail, reduction is not at all likely to be effected by purgative

medicines, which I do not think ought, under any circum stances, to be administered whilst constriction exists.

In the table annexed to this paper, containing th results of various modes of treatment in 432 cases strangulated hernia operated upon, will be seen the ba results attending the exhibition of purgatives before th operation, the rate of deaths being cent. per cent. to tho of recoveries. Of these 432 cases, I find sixty-six state to have had purgatives prior to operation; of these sixt six, thirty-five recovered, thirty-one died; and in si where, in addition to the purgatives, tobacco eneme were employed, four died, and only two recovered. The facts must speak for themselves, the rate of mortali attending this mode of treatment being so much beyo that which obtains when no purgatives are employed, th it only requires to be known, to be universally abandone

Another circumstance influencing the success of t operation for strangulated hernia, is the mode and degr of application of the taxis. Its mode of application is well described by Lawrence and others, that it is unnece sary to dwell upon that point here. I would therefo confine myself to the consideration of the extent to whi we should employ the means of reduction.

The long-continued trial of the taxis has been advocat by Amussat and others, who have published cases support of their views; but opposed to these opinio experience and the various recorded facts so clea demonstrate the pernicious effects of this practice, that cannot doubt the necessity and importance of at o proceeding to operation, after we have convinced oursel —by reasonable and gentle examination and use of taxis—that there exists an actual impediment to return of the protruded parts into their natural cavity.

'he mode of application, and the extent to which the is should be employed, has been dwelt upon by most geons of eminence, who, with the exception of ussat, Macleod, and one or two others, deprecate its g-continued or violent use.

t is a matter of such moment, that I would here record various opinions in juxtaposition, that we may be more able to appreciate its importance.

ir A. Cooper.—"It too often happens in our hospitals, patients are lost in consequence of gentlemen being ered to make repeated trials of the taxis. The repeti- of the the taxis is not only useless at the time, but n renders unavailing all other means for returning the nia which may be subsequently employed."*

carpa,—"Strangulated herniæ frequently mortify, from negligence of the patients, and their repugnance to nit to operation; and perhaps still more frequently the effect of the taxis unskilfully exercised by unin- ned surgeons, who are determined, at any price what- er, to accomplish the speedy reduction of the viscera. sooner are the symptoms of strangulated hernia ced, than they begin to handle the swelling roughly, to push the viscera with all their force, in order to e them return into the abdomen."†

lr. B. Cooper,—"Indeed, I will say further, that the uent attempts at reduction by the taxis, and the delay sequent upon these trials, are far more dangerous than dexterous performance of the operation."

etit, speaking of the advocates of long-continued taxis, —"They depict the operation as more dangerous than

* Lectures, pp. 216-17.

† Traité des Hernies, p. 244.

it is in reality. In fact, the danger is not so much in th operation as in the condition to which they have reduce the patients, as we sometimes find the gut mortified, some times ruptured, even if the contents have not escaped int the abdomen." "I was sent for to a man, aged thirty, i whom a pupil had ruptured the gut in the sac. Not per ceiving his error, he said that the gut had become softer I ordered a poultice, and promised if the hernia did no return, I would operate. I operated, and found the gu mortified, and burst by the violent efforts at reduction."*

Parish,—"For my own part I am inclined to con sider taxis in hernia, and crepitus in fracture, as tw unhappy words. They are so intimately associated wit the idea of mechanical force, that the poor patient may b subjected to an increase of pain and danger by the appl cation and practice. *Arte non vi* should be the maxim the surgeon."† He relates a case where a layer of coag lated blood was found external to the sac, doubtless th result of endeavours to return by taxis.‡

Dessault was so fully convinced of the danger of th practice, that in his opinion the bruising and other injuri inflicted on the bowel by the surgeon in such attempt render the state of the patient as critical after t reduction, when accomplished, as it is before. I witnessed many cases tending to show a great differen in the mortality after operating, in favour of those oper tions performed on patients who had not been previous subjected to the taxis. You may always hope for succe he says, in a hernia which has not been touched befo operating. He had often succeded completely in oper tions upon patients who had not been tampered wi

* Traité des Hernies, p. 244.

† On Hernia, p. 25.

‡ On Hernia, p. 48.

n after strangulation had continued four or five days, when strong efforts had been made to reduce the nia, he almost constantly met with a fatal result.*

Mr. Lawrence remarks,—"The inflamed and very sen-ve nature of the parts makes it necessary for us to ceed gently and cautiously, to avoid forcible compres-and rough handling, which not only aggravate the ent's sufferings, but by increasing the inflammation, tly augment his danger." And at p. 142, he says:—hen the rupture becomes very painful, we are no ger justified in continuing attempts at reduction by the d. A sufficient pressure cannot now be endured; and force which is employed only tends to increase the mmation and accelerate the approach of gangrene. his period the operation is required, and should be ormed without delay. The surgeon is not warranted lying on the taxis as his chief method of accomplish-reduction; he should not waste in unavailing efforts of kind that time which ought to be devoted to the pro-tion of more vigorous measures. When he cannot ce a rupture at one fair trial, he has less and less ce of effecting his object in the subsequent progress e case, unless he can produce an alteration in the state e tumour by other means.†

r. Key,—It has fallen to my lot to see more than case in which the patient has fallen a victim to a long-inued succession of violent attempts at the taxis. e were followed by a discharge of blood per anum, the bruised vessels of the lining membrane of the gut, h frequently exhausts the patient after the hernia has returned."‡

* Œuvres Chirur., by Bichât, vol. ii., p. 336.

† On Hernia, fifth edit., p. 141.

‡ On Hernia.

Mr. Stanley has seen discharges of blood per anum i cases in which the taxis alone had been tried.*

Richter,—"Although far from rejecting the taxis a together, I must admit, from my own experience, that am far from considering it, with the generality of surgeon as the most important mode, as I am persuaded that it often injurious. When the hernia is so inflamed that slight pressure causes pain, the taxis should never be em ployed, it ceases to be useful, and becomes decided injurious, as slight pressure on highly inflamed par augments the inflammation and favours gangrene; an immediately this degree of pain is present, it is time operate, and all delay is hurtful."*

Mr. Guthrie observes,—"The application of pressure the taxis is limited by the state of the part. In rece herniæ, which have become strangulated, it must depe entirely on the pain felt by the patient. If the tumour so painful, when touched, that the person cannot bear the operation ought not to be delayed; and more partic larly if the swelling is hard and tense, like a ball, or if a discolouration of the skin has taken place. In these cas delay is not admissible, and the operation should be do without reference to the time the part has been suppos to have been strangulated; it being immaterial wheth it has taken twelve or only two hours to arrive at th state."†

Mr. Hey deprecates the long-continued employment the taxis.‡

Mr. South, after speaking of the effects of violent tax says—"I believe that to this rough handling is mai attributable the unsuccessful results of operations wh

* *Lancet*, 1844, vol. i., p. 290.
† Op. cit., p. 66.
‡ On Hernia, p. 23.
§ Practical Observations, p. 144.

e rupture has been long strangulated, and the taxis has en repeatedly employed with an unsparing hand."*

We have also proof of the detrimental effects of pro-ged application of the taxis in the results of opera-ns for strangulated hernia in the hospital practice of M. Boyer and Manec, as given in the *Revue Med. Chir.*, 47. Since the year 1838, the number of operations for angulated hernia amounted to fifty-eight; of these, M. yer operated upon thirty. Between the years 1834 and 39, M. Boyer never operated until he had made prolonged empts at reduction, and during that period nine cases re operated upon, of which eight died and one recovered. om 1839 to 1843, he employed the taxis to a much re limited extent. Seven cases were submitted to ope-ion, of which four died and three recovered. From 43 to 1846 he had almost entirely abandoned the use of taxis, and out of fourteen cases upon which he operated, r died and ten recovered.

M. Manec, on the contrary, during the same period, ost always proceeded to operation without employing taxis. Out of twenty-eight cases operated upon, two d and twenty-six recovered.

Here, then, are the recorded opinions of some of the atest authorities upon this subject, formed from expe-ce of the impropriety of long-continued taxis, delay, making the operation a *dernier ressort*. They are so clusive, and expressed with so much decision by the ious authors, that they merit our most serious attention. y must convince us of the propriety of operating early, of the fact that the operation is not in itself of so dan-ous a character as is usually supposed; that if the ient is in other respects properly treated, we may fairly

* Translation of Chelius.

look forward to a successful termination, under ordinar circumstances, in a very large majority of cases; and would add the opinion of the late Mr. Pott, "that th time in which a piece of gut will become gangrenous fro stricture, or get into a state approaching to that of gan grene, is extremely uncertain, and depends on circum stances which no man can foresee." "The direction which are given to us by writers are not to be truste without much circumspection; the signs or marks whic they in general regard as proofs of the proper time fo operating are most frequently proofs that that time is ju elapsed, and that instead of waiting for the arrival of suc symptoms we should have prevented them."*

It is urged that both surgeon and patient have so muc dread of the operation; the former, from knowing th dangers incurred, and the mortality attending the usu method; the latter, probably from the suspicion of dange as well as from the natural dread of incurring the necessa pain, that they are willing, the one to try, the other undergo, anything and everything short of the operatio in the vain hope of avoiding the attendant risk a suffering; and those who have urged this point have, the purpose of supporting Petit's method, magnified a exaggerated such dangers, instead of tracing them to th true causes, thus perpetuating and increasing the practi of delay and injudicious handling, which they all deplo whilst at the same time they propose and advocate a mo of proceeding fraught with danger to the patient. have seen, according to the statistics of Mr. Gay, that ratio of mortality in the same class of cases is greater Petit's than in the usual method, being one in seven an half in the former, one in nine in the latter, whilst in

* Surgical Works, vol. ii., pp. 77-8.

18 cases collected indiscriminately from various sources, e rate of mortality in the former is one in four, in the tter, one in six; and I feel assured that no one would se from the perusal of the published reports without ing convinced, that whilst the successful cases treated Petit's operation would have been equally successful der the usual treatment, a very large number of those which it failed might have been saved, had the sac en opened, and the common and ordinary operation rformed.

There are few diseases in which the discovery of the pperties of chloroform has conferred a greater boon upon th surgeon and patient, than in cases of strangulated rnia; those on whom, from peculiarity of organization, from other causes, it would be unsafe to employ this ent, form but a very small minority, whilst in the jority, the preliminary bleedings, warm baths, &., may dispensed with. There is no necessity for either long- ntinued or frequent application of the taxis; if, when the ient is well under the influence of chloroform, the gut l not readily return into the abdomen, we may sonably infer that the existing constriction is too great be overcome by ordinary means, and we ought at once proceed to operation; we have, in fact, no excuse for ay; we obtain the same condition of the patient by the oroform as we do by bleeding him to fainting, placing in a hot bath, or using the tobacco enema or fume, y without the injurious effects resulting from these edies. The patient is spared the dangers resulting n delay and unnecessary handling. The hours which e formerly consumed in fruitless efforts, may now be uced to so many minutes; the patient is in a great sure relieved from the dread and pain of the operation.

We can assure him that it will be painless; that, b substituting the chloroform for other and the usua remedies, we materially diminish the danger, and con sequently enhance the certainty of cure. I have frequentl employed this agent in cases where the hot bath, bleeding &c., have failed, with perfect success. In some instance the gut has returned of itself, when the patient has bee placed under its influence; in others, a very slight degr of pressure has been all that was required. But, as ma be supposed, chloroform does not prove (at all events, far as my experience goes) so successful in femoral as inguinal hernia, when strangulated—a circumstance depe ding, doubtless, upon the structure of parts. I wa some few months since, requested by my friend M Wotton, to see a patient with strangulated inguin hernia, of sixteen hours' duration. He had been bled, h warm baths, been subject to frequent trials of the tax but without effect. I found him much depressed, constan vomiting stercoraceous matter, and complaining greatly pain at the umbilicus and in the tumour, which was very tender that he could scarcely allow me to make necessary examination. I was prepared to operate; before doing so, I proposed the administration of chlo form, and whilst under its influence, to try to return gut. Mr. Wotton had already suggested this to patient, but he would not then consent; however, find he got so much worse, he agreed, and the chloroform used, with the best results, the gut going back without resistance. Several other equally successful cases h occurred, clearly demonstrating the value of chloroform the reduction of strangulated hernia. Indeed, when impediment to the return of the gut exists, the chloro by preventing delay, is of so much advantage, that if

terdicted by any peeuliarity of the system, I would ggest that the patient should at onee be plaeed under s influence, and that, if the hernia cannot then be duced, the operation should be proceeded with without rther loss of time.

Sir A. Cooper has so strongly advocated the neeessity bleeding, before the operation for strangulated hernia, at, entertaining the opinions which I have here exessed, that in those instances where we may administer loroform we may altogether dispense with bleeding, I induced to inquire into the reasons which he has signed for such reeommendation. He says—"If you called to a case of strangulated hernia, and find that taxis does not sueceed in redueing it, I advise you eetly to take away blood." "This eourse is to be ken, not merely with a view of redueing the hernia, but prevent peritonæal inflammation after the operation, if operation should be neeessary. It is a most mistaken w of the nature of this disease, to suppose that the tient is safe after the hernia is returned by the operan; on the eontrary, he is in the greatest danger after operation, unless he has been freely bled before it. If should be asked to what extent you would bleed in angulated hernia, your answer should be, until it proces faintness, beeause it is in that state that the hernia most likely to be returned. If the surgeon therefore s not take away blood freely under such circumstanees, conduct will be most unpardonable.'

That the faintness induced by bleeding has very quently been of serviee in assisting the reduction of gut by taxis, eannot be denied, but it is not so certain t it exerts such a deeided and beneficial influence in venting inflammation after the operation, as here

asserted by Sir A. Cooper. On the contrary, I believe that this abstraction of blood, and the consequent depression, have, among other causes, increased the mortality attending the operation for hernia. If the case were one of mere simple inflammation, the bleeding would be of service; but it must be remembered that, when we operate after the bleeding—after the faintness has been induced we commit a new violence upon the part—we excite a fresh cause of inflammation by the wound we inflict; whilst having previously depressed our patient by the abstraction of blood, we have rendered him unable to resist the energy of the attack, so that, should inflammation set in, we have deprived ourselves of our resources—we have reduced the patient so much before the operation, that he will not bear any further depletion. In the same ratio as the patient has been depressed, will be the urgency of the symptoms; and the greater the urgency of the symptoms the less will be the power of resistance or recovery possessed by the patient. I have often seen individuals bled before undergoing serious operations, and having carefully watched the results, I can affirm that I have never seen any benefit ensue from the practice, but very frequently harm. The mischief attending strangulated hernia is very different to the common inflammation occurring under ordinary circumstances, and in most other parts of the body. The depression attending injuries of vital organs is always present in strangulated hernia. The patient, so long as constriction exists, is more or less rapidly, but at the same time with equal certainty, verging towards a state of collapse. To this state we are obliged to add the shock of the operation, which often proves beyond the powers of the patient, who sinks and dies without the power of making an effort at recovery. The

ondition of a very large proportion of cases submitted to e operation for strangulated hernia, both before and for me time after operation, bears a strong resemblance that of concussion of the brain in its first stage, here we have greater reason to dread the collapse than e subsequent reaction. The cause of death is usually cribed to peritonitis, enteritis, or both; but it as often, if t more frequently, depends upon the state of collapse to which the patient is thrown, and from which he has t the power to rally. Considering this circumstance—nsidering the depression and sinking experienced from e pressure on the gut—considering the shock inflicted by e constriction, and subsequent operation—considering o that there is always a state of prostration, of greater less duration, succeeding every operation, particularly at for hernia, our duty is to husband our resources—to sist him through his difficulties, rather than by abstract-g blood on speculation, rnu the risk of preventing the cessary reaction taking place, and depriving him of that wer of restoration so necessary to his recovery. In ordi-ry cases of inflammation, depending upon local causes, at once proceed to remove such local causes, and bleed erwards, if necessary. Why should we treat hernia ferently? If, as I have endeavoured to prove, that less, as respects the subsidence of muscular tone or con-ction, from the faintness induced, the abstraction of od prior to operation is injurious to the patient, we ght no longer to pursue such practice, notwithstanding very high authority upon which it is based, as we may, the chloroform, equally remove all resistance from the scles, whilst we can do more than we could ever attain the bleeding, we can, at the same time, remove all con-ousness of pain, and, consequently, all natural, though

frequently involuntary, efforts at resistance, which add t the muscular constriction of the gut. The same remar applies equally to the employment of the hot bath, whic is not always at hand in private practice, and can rarely b obtained without considerable loss of time.

But in no point of view is the chloroform more valuabl than in doing away with all excuse for the employment o tobacco, which has exerted a very baneful influence ove the result of operations. Of the cases to which I hav already alluded, I find the following rate of mortality :—O five cases wherein tobacco was administered before th operation. three died and two recovered ; of eleven case wherein tobacco was administered before the operatio and purgatives afterwards, five died and six recovered ; some, purgatives were also given before the operation, addition to the tobacco injection ; and in several cases th patients died very shortly the operation, never havin rallied from the state of extreme prostration into whic they were thrown.

Having in the preceding remarks referred to the influen exerted by the treatment as usually adopted antecedent operation, I would now offer some observations upo the treatment employed after the operation has bee performed.

Considerable difference of opinion has obtained wi reference to the early administration of purgatives aft operations for strangulated hernia. Sir A. Cooper adv cated and employed them, Mr. Lawrence likewise, the last edition of his work on hernia, published in 183 strongly urges their exhibition, saying, "If therefore, t bowels should not have been relieved in three or fo hours, a few grains of calomel may be given in a pill, two pills may be administered, consisting of equal parts

omel and colocynth. The sulphate of magnesia may be en afterwards, in the dose of two drachms or one chm in the infusion of roses. We must repeat these similar means, and persist in their employment until the al is completely unloaded." He adds, "The notion, that gatives are capable of exciting the mucous membrane the alimentary passages, and thus of producing and ravating inflammation of the stomach and bowels, and prohibition of their employment on this account both r the operation for strangulated hernia, and in many er cases, is in my opinion entirely groundless, and practical precepts founded on this theoretical and ginary foundation have always appeared to me a nal triumph of doctrine over the most unequivocal ult of experience, and the plainest dictates of common se.*

This is certainly a very strong and decided opinion, and anating from so deservedly high an authority is capable doing incalculable mischief if wrong, as it is of leading good if correct. From the results of cases recorded ich I have here given;† from the experience of other geons of equal eminence and experience with Mr. vrence, such as Dupuytren, Guthrie, and others, as l as from what I have myself observed, I am entirely osed to the practice here inculcated. I believe that the ults of experience as well as the plainest dictates of mon sense, so far from being triumphed over by trine, go hand in hand with and support it, and that injurious effects of purgative medicines, both after the ration for strangulated hernia and in many other es, instead of being "either theoretical or imaginary," fully demonstrable by the increased urgency of the

* P. 323.

† Table 3.

symptoms and the fatal results attending their exhibitio
If we refer to the table annexed,* we find one hundred a
eighty-nine cases treated by purgatives without tobacco,
other medicines. Of these, sixty-six had purgatives befo
the operation only; the results are, thirty-five recoveri
thirty-one deaths. Eighty had purgatives after the oper
tion, but not any before; of these, forty-two recover
thirty-eight died. Forty-three had purgatives both befo
and after operation; the result being twenty-four recoveri
nineteen deaths. On the other hand, the same table giv
us the result of sixty-nine cases treated entirely witho
purgatives; of these sixty-nine cases, eight died, sixty-o
recovered. Surely, with such facts before us, it is indul
ing in no chimera to consider that purgatives do har
that their exhibition either before or soon after operatio
is bad practice.

Two years ago I was requested by a gentleman in la
practice, to see a patient residing near Foley Place.
was suffering from inflammation of the cæcum, h
constant sickness, obstinate constipation, great pain a
hardness in the right iliac fossa, over which he could
bear pressure. He was ordered to be bled *ad deliq.*, a
to have calomel and opium every two hours. I s
nothing more of him for above a week, when I was s
for in great haste as the patient was said to be dyi
This unfortunately was too true; he was in a state
collapse, pulse scarcely to be felt, skin cold and clam
constant vomiting and hiccough, abdomen tympani
his bowels had not been relieved, and he sank and died
a few hours. The gentleman in attendance told me t
he improved greatly after the bleeding, and for the f
few days after my previous visit, that he then conside

* Table 3.

so much better that he thought he might give him e purgative medicine with advantage, his bowels not ng been relieved; he accordingly administered two mel and colocynth pills at night, followed by doses of hate of magnesia on the succeeding day. This was nded with the worst results; the sickness which had ided, returned with increased violence, as did the ; in fact, the symptoms generally were aggravated, he continued to get worse until he died.

is perfectly true, that the bowels are sometimes ved spontaneously soon after the operation, and that a iderable abatement of the symptoms in general ensues, we should be cautious how we confound cause with t; the action of the bowels is not in this instance the e, but the result of the abatement of the symptoms, h, by re-endowing the intestines with their natural tions of which the constriction and inflammation had the time deprived them, had led to this relief or uation with its concomitant improvement. If we were that the intestines continued healthy notwithstanding constriction (which we know is not the case), if we certain that they were merely torpid, we might icit" their action by aperients with some prospect of ntage, but the operation unfortunately is in too many nces delayed until the gut is inflamed, sometimes renous. If the bowels do not act when the con- tion is removed, it is because they have temporarily or anently as the case may be, lost the power of doing and with this power the capability of obeying the ulus of purgative medicines, which will now do harm; tly as an inflamed retina no longer obeys the stimulus ght, which under such circumstances acts as an irritant e organ instead of being a healthy stimulus necessary

to vision. "The gut," as pointed out by Mr. Canton has been hurt and requires rest, it has been forcib impeded in performing its office, and cannot at on resume the duty; its sluggishness points out the mischi induced, which calls for quietude but may resent inte ference." It is, as Mr. Arnott observes,† "in the conditi of a part which has sustained a physical injury; and you would not expect a person with a bruised, swolle and inflamed leg or arm to be benefited by exercising t part, so also in the case of a portion of bowel simila circumstanced, rest and quiet would seem to be the m appropriate." If the gut has not become inflamed, then the will be no danger in waiting a reasonable time to adv of recovery from the shock of the operation, and t impression made on the nervous system. If on t contrary the gut has become inflamed, why should t case after operation be treated differently to any other ca of acute enteritis; Dr. Watson† in his lectures remar with respect to the employment of purgatives in enteri "I do not think that the good which they are calculated do as antiphlogistic remedies, can be at all put in compe tion with the harm that I am persuaded they may produ by increasing the peristaltic action of the intestines." T observations of Dr. Thomas§ also are well worthy consideration; he says, "It is indeed too much custom to have recourse to active purgatives at the v commencement of enteritis, and this too in very c siderable doses, a practice which cannot fail to pr highly prejudicial. The intention is to evacuate bowels, but it should be considered that purgatives em

* *Lancet*, vol. i., 1847; p. 378. † *Lancet*, June, 1842.

‡ Practice of Physic, p. 130.

§ Practice of Physic, 3rd. edit., vol. i., p. 298.

intestinal canal by means of their specific stimulus, ich increases the secretions and quickens its peristaltic tion. Let it also be recollected that the bowels are eady excited to the utmost, that they are in, or at least ding to a state of high inflammation, and that no hological fact is better ascertained than that excessive itement destroys secretion—that by applying stimulants an inflamed membrane, every secretion which it was nt to pour out, is locked up." Again, Dr. Mackintosh nts out the inutility of exhibiting even the most laxative dicines until the inflammation has considerably subsided, they will increase the already too irritable state of the mach, whilst Dr. Corragan says, "Relieve the serous ammation and permit the peristaltic action of the stines to return, but do not force it; look upon the stipation as effect, not cause;" and he adds, "Fancy abdomen of a patient affected with peritonitis exposed view, with the cæcum and small intestines intensely amed, and that while nature was doing her best to p these parts in a state of rest, croton oil was thrown the intestinal tube by one inlet, and stimulant injec- ns through another. Surely, such would be an error of ctice perceptible to the commonest capacity."*

Such are the opinions of men of the greatest experience, to the injurious effects of purgative medicines in cases idiopathic peritonitis or enteritis. Is the inflammation ceeding or attending strangulated hernia of so peculiar a aracter as to require a different mode of treatment? Is o peculiar as to yield to, or be benefited by purgatives, ilst every other other form is aggravated by their em- yment? Is it so peculiar that the obstinacy of the lamed gut may be overcome, and the part forced to act,

† *Medical Times*, May, 9th, 1846; p 99

notwithstanding the suspension of its natural function
If it be, then we ought to treat the patients according
the directions of Mr. Lawrence, if it be not, then
cannot doubt the correctness of Mr. South's views, th
much of the fatality attendant on operations for strang
lated ruptures, depends upon the improper exhibition
purgatives.* Nor should we overlook the statement
Mr. Guthrie, that he has known an intestine returned
the cavity of the abdomen in a doubtful state give w
under severe purging;† an additional reason why
should be cautious how we endeavour to force the bo
to action before it has recovered its natural or healt
condition. We have seen the importance of keeping
intestines quiet and completely at rest after operati
and how can this be accomplished if we pour in medici
which act by creating increased excitement, vascular
secretion, and peristaltic action, not merely of any
particular part, but of the whole length of the intesti
canal, from the commencement of the duodenum to
extremity of the rectum.

Notwithstanding the great stress laid by authors upon
benefitsaid to result from the evacuations of the conte
of the bowels, I cannot help thinking it is much overrat
and that the undue importance attached to it has led
the worst results, by inducing surgeons to attempt its p
duction before the parts are in a fit state to effect it; I
not mean to deny that the action of the bowels is a v
satisfactory sign, but I believe it is a matter of very li
importance whether this take place one hour or one w
after the operation, provided the other symptoms
improved and remain favourable, which I have found to
the case in several instances. If the patient's countena

* Chelius, vol. ii., p. 47.

† On Hernia, p. 47.

s its anxious expression; if the surface of the body omes warmer and the abdomen softer and more free n pain; if the pulse become fuller and the vomiting es, we may rest satisfied that we have removed the striction, which is all that is necessary for the time, we had then much better wait for the part to recover n the injury it has sustained, and allow the patient to r from the shock of the operation. During the last year erated upon a patient in the Charing Cross hospital strangulated femoral hernia; her bowels were not ld upon for four days after the operation, but this ed me no anxiety as all her other symptoms were urable, her tongue was moist and clean, she had no iting nor pain in the abdomen, and her pulse remained t. On the fifth day, however, her tongue became ed, she was then ordered an enema, which was quickly wed by a copious evacuation, and from that time her els acted spontaneously, and she speedily recovered. patient was so much exhausted at the time of oper-n, and the gut had been so severely compressed, being dark mahogany colour, that I have no doubt she ld have died had purgatives been administered early. nother case, a patient of Mr. Diamond, upon whom so operated during the present year; the bowels not acted upon for four days after the operation, yet the patient got well without any bad symptoms. uld instance several others, which have occurred ny own practice, but the above are quite sufficient rove what has been here stated, that although action of the bowels is a satisfactory sign, it is natter of very little importance, whether this action s place immediately, or in the course of a few days the operation; the cure will proceed equally well, and

we had much better wait until the condition of the patie indicates the propriety of inducing action. When a symptoms of inflammation have subsided, this may safely attempted by enemata, which should be mild, a always be employed in the first instance, before we exhi aperients by the mouth.

But although we should abstain from purgative me cines, it does not follow that we should do nothing. Natu in this, as in many other instances, points out the be means for assisting the patient through his difficulti There can be but little doubt that the torpid condition the bowels in enteritis tends to their cure, they requ rest, and they obtain it through these means; but in cas of strangulated hernia, after operation, we have oth objects to attain; the patient has received a severe shoc and in this his nervous system invariably sympathise there is always considerable depression, requiring reacti to effect a cure; the patient is in fact in a very simi condition to those who have sustained a very severe ac dent, (as described by Mr. Travers, in his admirable w on constitutional irritation,) and it is somewhat curio that Sir. A. Cooper, who noticed this condition, in treati of compound fractures, in his lectures, strongly depreca the employment of purgatives, as detrimental, by d turbing the patient; and yet ordered these medicines strangulated hernia. This state of collapse frequen proves fatal; without an effort at recovery, the pati passes from bad to worse, and quickly sinks and dies. is in this stage that opium is of such utility, and common tincture of opium is I believe the best preparat to use, it acts as a stimulant and cordial at the same t that it exerts its soothing qualities, and I have usu found the pulse rise, and the surface of the body beco

rmer, very soon after its exhibition. Some surgeons in by giving opuim combined with calomel, but I do think this advisable, the calomel is too depressing; wish in the first instance to assist our patient to a e of reaction, and whatever depresses must therefore d to defeat our object. If the abdomen remain soft free from pain on pressure, independently of the eness resulting from the wound, it is better after giving ty to forty drops of laudanum immediately after the ration, to confine our treatment to fifteen or twenty ps of laudanum, in camphor mixture, every four or hours, as the case may require; but should signs of ammation appear, then calomel and opium, with either l or general bleeding, or both if required, in cases enting a reasonable chance of recovery, act most sfactorily.

ASE 1. M. G., aged 39, was brought to the Charing ss Hospital at eleven o'clock in the evening of March 1849, suffering from strangulated femoral hernia of left side, and admitted under the care of Mr. Hancock. appeared that the patient had for some days suffered constipation, for which purgatives and an enema administered without effect, and that latterly she had coraceous vomiting. At the time of admission, her ntenance was anxious, pulse quick and feeble, there intense pain in the groin as well as generally over the omen, particularly about the umbilicus, and she could bear the slightest pressure. As several attempts had made to reduce the parts by taxis previous to her g sent to the hospital; it was deemed advisable to ate without delay. The chloroform was accordingly

administered, and the usual operation performed; the sa having been opened, the strieture which was very tens divided, and the intestine returned, a eareful examinatio was made to aseertain whether there were any adhesion after which the wound was elosed, the patient placed i bed, and the following mixture preseribed:—

℞. Tinet. Opii ʒij.
Mist. camphor ℥viii.
Sumat. ℥j, quartâ quâqua horâ.

March 7th.—Entirely free from pain, has passed good night, and says she feels altogether relieved.

Mareh 8th.—Not quite so well, complains of slig tenderness in the abdomen on pressure.

℞. Hyd. Chlor. gr. ij.
Pulv. Opii gr. ss.
Conf. q. s.
Ft. Pil. quartâ quâqua horâ sumenda.

Mareh 9th.—Mueh the same, bowels have not be relieved.

10th.—Patient perfeetly easy, the pain having entir disappeared; has passed but little urine, bowels not relieved. To have a mild enema, and take the following:

℞. Potassæ Nitratis ʒij.
Mist. eamphor ℥viii.
Sumat. ℥j. ter die.

Mareh 11th.—Bowels have been freely opened f or five times; is quite easy; the external wo nearly healed. From this time the patient eontin steadily to improve; she had a truss fitted on wit fourteen days of the operation, and was discha cured.

Case 2. W. C., æt. 52, coal-heaver, admitted into the haring Cross Hospital under the care of Mr. Hancock, ith strangulated oblique inguinal hernia, 25th November, 347. On the 23rd inst., whilst carrying a sack of coals a steep hill, he felt "something slip down" on the left le, after which he walked home in great pain, and very k. In this state he remained, his bowels unmoved; til brought to the hospital, where Mr. Hancock saw him out an hour after his admission, and upon examination nd a large hernia on the left side. His pulse was very v and small, tongue coated, skin moist, cold and mmy; complained of feeling very weak, not having en anything since the accident. He was placed in a rm bath, and the taxis attempted, but without success; became extremely faint, and refusing to submit the operation, he was ordered nourishment and the owing mixture:—

℞. Sp. Ammon. Aromat.
Sp. Æther Sulpt. Co. a. a. ʒij.
Aquæ ℥vii.ss.
Sumat ℥j. quartâ horâ.

26th.—Has passed a very restless night, and been much bled with stercoraceous vomiting; being now willing submit to the operation, it was performed in the usual nner, the patient having been put under the influence chloroform. The bowel being drawn down and exned after the stricture was divided, looked dark, gested, but shining; it was therefore carefully returned, a portion of omentum adhering very firmly and to a e extent to the sac was left, and the wound closed and patient placed in bed. He became very faint and low, was consequently ordered some brandy and twenty ps of Tinct. Opii in camphor mixture.

27th —Bowels acted spontaneously this morning; fee pretty easy, except a slight soreness over the abdomen complains of being very low and troubled by frequen hiccough; as he craved for beer, he was ordered a pi and the following mixture :—

℞j. Moschi.
Ammon Carb. a. v. ʒj.
Aqua ℥xij.
Sumat ℥j. ter die.

28th.—Progressing favourably, and from this report continued to improve until the 20th December, when was dismissed cured.

Case 3.—I was requested by my friend, Mr. Houlto on Saturday, 4th September, 1847, to see a gentleme aged 57, residing at St. John's Wood, who was sufferi from strangulated congenital inguinal hernia, of the rig side. I found the patient suffering severely from t shock produced by the constriction, although a man great moral courage; his pulse low, intermitted once every three beats; the tumour, about the size of a sm orange, was extremely tense, and so painful that he cou scarcely allow it to be touched, the integument covering being inflamed; there was no vomiting, but a general sens tion of fullness, and tension over the abdomen, which w becoming tympanitic. From his general appearance, t condition of his pulse, intensity of pain in tumour, rapidi with which the inflammation appeared to be increasi we concluded that he was by no means a good subj for such a malady, that if his life was to be saved, would only be by performing the operation at once, witho wasting his remaining strength by prolonged endeavou at reduction. The operation was therefore commenc

d everything went on in the usual manner, until the sac
is opened, when the intestine was found highly inflamed,
d very tightly eonstrieted at the external ring; the latter
is freely divided, when another eonstriction presented
the neck of the sae, whieh was also cut through;
was then enabled to introduee my finger into the ab-
men, and concluded that there would be no further
fieulty in returning the bowel. In this, however, I was
staken. The intestine could be pushed back into the
domen, but it would not remain there, it protruded
mediately I withdrew my fingers, and my attempts
used great suffering to the patient, who assured me
t the strieture had not been relieved. I therefore
in introdueed my finger into the abdomen, to aseertain
ether there was any adhesion, but not finding any, I
cluded the diffieulty resulted from an adventitious band
peritonæum or divertieulum, aecordingly, having gently
wn the portion of the intestines down as far as eould
ne with safety, I requested Mr. Houlton to retain them
that situation, whilst I again introduced my finger into
abdomen, taking care on this oceasion to pass it along
gut, when the intestines were found tightly eonstricted
a round eord, which I presumed was one of these
ds. Considerable difficulty arose in dividing this, as
m the distanee at which it was situated, and the eon-
ction it caused, the intestine kept rising up over and
und my finger, and was very liable to be wounded, not
y by cutting, but in getting the knife under the stricture.
wever, with Mr. Houlton's assistance in keeping the
stine down, I ultimately made the neeessary division,
h instant relief to the patient.

September 5.—Going on pretty well, pulse better, inter-
ting onee only in thirty-five, instead of three, as before

the operation; bowels not been moved, and he complaine of pain in the abdomen, augmented on pressure, especiall over the right iliac-fossa; twelve leeches to be applie and to take two grains of calomel and half a grain of opiu every four hours.

September 6.—Decidedly better; no action of the bowel —calomel and opium to be continued.

September 7.—Mouth slightly affected by the mercury quite free from pain, but very anxious on account of h bowels not having been moved since the operation A all pain had subsided, even on pressure, we determined c giving him an enema, which brought away a quantity feculent matter, followed, in the course of three or fo hours, by a copious evacuation; from this time all anxiet for his life ceased, the wound healed very slowly, a sinuses formed in various directions, which had to be la open from time to time; his pulse continued to interm throughout, and when I last counted it the intermissio occured once in eighty-five beats.

He has remained quite well since the operation.

Case 4. M. E., æt. 73, widow, residing at 7, Cro Street, Bow Street; admitted under Mr. Hancock's ca into the Charing Cross Hospital, November 27th, 184 with strangulated femoral hernia of right side. On We nesday last, 24th inst., whilst mangling, she felt somethi descend into the right groin, and soon after was very sic suffering great pain in the part. A surgeon was called next day, who ordered some purgative medicines, whi did not succeed in moving the bowels, but were short followed by stercoraceous vomiting; Mr. Leonard w then sent for, and having made an examination, di covered hernia on the right side which he could n

uce, and accordingly had her at once removed to hospital, where Mr. Hancock saw her, and found a all, tense oval tumor just below Poupart's ligament on inner side of the thigh, near to the spine of the pubes. r pulse was low, skin dry, and hiccough frequent; she s placed in a warm bath, and the taxis attempted, but complained of so much pain in the part, that the oroform was administered and the operation performed hout further delay: the sac opened, and the stricture ided, the gut was gently drawn down and examined; constricted portion was highly congested, and of the ur of tamarind stone. It was returned into the omen, as was a portion of omentum also contained ain the sac. The patient, who bore the operation l, expressed herself much relieved by it. To have nty drops of Tinct. Opii immediately.

8th.—Eleven A.M. Symptoms of peritonitis; complains great pain in the abdomen, beginning at the seat of cture; countenance anxious, bowels unmoved, pulse ll and jerking, skin hot and dry.

V. S. a ℥xij. statim.

℞j. Hyd. Chlor. gr. ij.

Pulv. Opii gr. ss.

Quartâ horâ sumend.

ix o'clock P.M. Better.

9th.—Bowels relieved early this morning for the first since the operation, she has since had six or seven ions—has less pain in the abdomen—feels very low.

0th.—A change took place about eight o'clock last ıt; the pulse became smaller and weaker, and she lually sank and died about three o'clock this morning.

ost-mortem, made twenty-four hours after death.

he strangulated intestine was found congested, but not

mortified. At that portion which had corresponded t Gimbernat's ligament during strangulation, a small ulce was observed; there was no lymph deposited upon th outer side of the gut, but upon laying the intestine oper patches of lymph were observed in various parts, whils the extent of ulceration was much greater in the mucou than in the serous membrane. The thoracic and the re of the abdominal viscera were healthy, with the exceptio of the gall bladder, which was twice its natural size.

This case entirely confirms the assertion of Mr. Guthri that he has known an intestine returned to the cavit of the abdomen in a doubtful state, give way under sever purging, whilst it at the same time supports the view which I have advanced, of the necessity of makin careful examination in cases of constipation, and th danger of administering purgatives before operation. Th calomel and opium with the bleeding, had evident subdued the inflammation, the bowels acted spont neously, but when once set free, the purgatives adm nistered by the gentleman who first saw her, caus such severe action seven or eight times, such violence the part, that the constricted portion weakened by ulce ation gave way, and the patient was consequently lo On the other hand, the three first cases prove the inutili or rather the total absence of all necessity for action the bowels during the first few days after operation; th fully demonstrate that the patient will progress favoural without that early action upon which Mr. Lawren dwells so forcibly, they also prove that if allowed necessary interval of rest, if not irritated beyond th powers of endurance, the intestines after operation strangulated hernia, are capable of resuming their natu functions spontaneously, or at all events with the aid

mildest injection. That they do not require to be ced by purgative medicines, but that on the contrary y receive the greatest injury from their exhibition, is ved by the annexed table * of statistics, in which we l forty cases treated by opium solely; of these forty, ty-six recovered, four died, or one in ten. What a tling result compared with that of the purgative tment, where the number treated is two hundred and nteen; of which one hundred and eighteen recovered, hundred died, or one in two and a half.

n further support of these views, I would also refer to ery interesting paper in the Guy's Hospital Reports, by Cock, on select cases of strangulated hernia, wherein r alluding to the first case as belonging to the category obscure and difficult forms of hernia, the author pro- ls, "The remaining ones are remarkable, inasmuch as patients recovered under circumstances which I have erally seen followed by a fatal result, and they are resting from the fact, that the same principle of tment was carried out in all, viz., a free exhibition pium after the operation, and a careful abstinence ng the first few days, from the use of purgative icines."

TABLE I.

ring the Relative Frequency of the Different Species of Hernia, in 537 Cases.

Femoral	250
Inguinal	250
Umbilical	16
Congenital	8
Ventral	5
	537

* Table 3.

TABLE II.

Showing the Influence of Age upon the Result of the operation fo Strangulated Hernia, in 357 Cases.

Age.	Total Number Operated Upon.	Recovered.	Died.
Under 1 year	2	2	—
Between 1 and 10 years.....	3	3	—
„ 10 and 20 „	7	6	1
„ 20 and 30 „	55	36	19
„ 30 and 40 „	51	32	19
„ 40 and 50 „	63	40	23
„ 50 and 60 „	73	52	21
„ 60 and 70 „	60	32	28
„ 70 and 80 „	30	17	13
„ 80 and 90 „	11	6	5
„ 90 and 100 „	—	—	—
Above 100	2	2	—
	375	228	129

TABLE III.

Shewing the Influence exerted by the several Modes of Treatme upon the Success of the Operation, in 432 Cases.

Remedies.	When employed as regards the Operation.	Total Number.	Results.	
			Recovered.	Died
Purgatives.....	Before.	66	35	31
„	After.	80	42	38
„	Before and after.	43	24	19
Purgatives, with Tobacco Enema	Before.	6	2	4
„ „ ...	Before and after.	3	1	
Purgatives.....	Before; Opium after.	12	9	
Tobacco	Before.	5	2	
„	Before; Purgatives after	8	5	
„	Before; Opiates after.	5	4	
Opium.....	Before.	5	5	
„	After.	25	21	
„	Before and after.	10	10	
Cases in which treatment not given further than that no purgatives were used.....	... ...	28	25	
Cases in which there does not appear any account of treatment	... ...	136	85	5
		432	270	16

DEDUCTIONS.

A CLOSE examination of the statistics and arguments in
our of not opening the sac in the operation for hernia,
ds greatly to diminish its claims to superiority over the
re usual proceeding.

That, opening the sac does not increase the danger of
operation, but on the contrary, is to be preferred as
safer mode of proceeding.

The majority of fatal cases are not consequent upon the
osure of the inflamed or strangulated portion of bowel,
sed by opening the sac, as is stated by Key.

Comparatively few cases die of simple peritonitis after
ordinary operation.

The amount of mortality is not in the same ratio as the
ent of the peritoneum and intestine exposed.

ncisions made into peritoneum, with a view to relieve
inflamed condition of that membrane, are calculated to
inish, not augment, the inflammation.

We may incise diseased with greater impunity, than
lthy peritoneum.

Rapid depression of the vital powers with death, are
to be attributed to opening the sac. Similar cases are
quently seen, where operations are performed not impli-
ng a serous membrane or a portion of bowel. They

are to be met with, likewise *after* division of the strictu external to the sac.

The plan of scarifying the neck of the sac, is extreme hazardous.

The risk of wounding the intestine is less in the usu than in Petit's operation.

The stricture should be divided before any attempts a made to draw the gut from under it; but after the divisi of the stricture, the gut should always be gently dra down, and the constricted portion carefully examin before it is returned into the cavity of the abdomen.

Bleeding into the abdomen from wounded artery duri the ordinary operation, is not necessarily fatal.

The cases of Lawrence, Breschet, Lallemand, a others, prove that the fear of bleeding in these operatio is much exaggerated.

Petit's operation not being applicable to all cas exposes the patient to the danger attending error selection.

The sac should be opened, that we may thereby enabled to judge of the condition of the intestine—whet healthy, ulcerated, or gangrenous; whether adhesi confine it to any part of the sac; the condition disposition of the omentum, the number of protrusi the condition and arrangement of the sac, whether dou single, or otherwise, and the seat of stricture.

Unless the sac be opened, we are unable to pa finger into the ring after the reduction of the gut, ascertain whether adhesions exist in that situation, which, unattended to, might nullify the success of operation.

In Petit's operation, mischief may accrue from retur

tid and decomposed fluid contained in the sac, into the vity of the abdomen.

On cutting through the superficial coverings of a hernia, eir peculiar odour and appearance do not warrant the nclusion, that the gut is in a gangrenous state.

On the other hand, these signs may be absent, and yet e intestine be found mortified.

After performance of Petit's operation, we may have casion from the persistence of symptoms of strangu- ion to open the sac, and thus two operations are formed; whereas, most frequently, one alone is neces- y when accomplished by the usual method.

The practice of exhibiting purgative medicines before erating for strangulated hernia, with a view to the eration of the gut by its own movement, is improper.

The operation has the best chance of a successful issue en undertaken early. The long continued employ- nt of the taxis, diminishes that chance materially.

The successful cases treated by Petit's operation would e been equally successful under the usual treatment; ery large number of those in which it failed might have n saved, had the sac been opened and the ordinary ration performed.

If, when the patient is well under the influence of roform, the gut will not readily return into the abdo- n, we may reasonably infer, that the existing constric- n is too great to be overcome by ordinary means, and ought at once to proceed to the operation.

The employment of chloroform should supersede the essity of warm bath, bleeding and tobacco, in the treat- nt of strangulated hernia.

The injurious effects of purgative medicines after the ration for strangulated hernia, are shown by the in-

creased urgency of the symptoms, and the fatal resu attendant upon their exhibition.

Mild enemata are preferable, after the operation, medicines given by the mouth; but these should or be employed after all symptoms of inflammation ha subsided.

A dose of laudanum should be given immediately af the operation, and repeated as often as occasion m require.

THE END.

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